Release of Hatchery-Reared Atlantic Salmon into Inner Bay of Fundy Rivers from 1900 to 2002

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2003

Canadian Data Report of Fisheries and Aquatic Sciences No. 1123

Fisheries and Oceans Canada | Pêches et Océans Canada

Canada

104-01112/

Canadian Data Report of
Fisheries and Aquatic Sciences 1123

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Cat. No. Fs 97-13/1123 ISSN 0706-6465

Correct citation for this publication:
Gibson, A.J.F., J. Bryan and P.G. Amiro. 2003. Release of Hatchery-Reared Atlantic Salmon into Inner Bay of Fundy Rivers from 1900 to 2002. Can. Data Rep. Fish. Aquat. Sci. No. 1123. 28 p. + vi.

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ABSTRACT

The Atlantic salmon populations of the inner Bay of Fundy were listed as endangered by the Committee on the Status of Endangered Wildlife in Canada in May, 2001. Many of these rivers have a history of enhancement activities via the release of hatchery-reared fish into their waters. We compiled records of these stocking activities around the inner Bay from 1900 to 2002. Exclusive of the years 1968-1971 and 1974, just over 40 million salmon have been released into 33 rivers in this region. The majority of these fish were released as fry prior to 1960. Release strategies changed from fry releases in the early 1900's, to primarily parr releases in the mid 1900's, to primarily smolt releases in the later part of the century. Since 1970, most stocking has been of the progeny of inner Bay of Fundy salmon. We were unable to determine the stock of origin for most of the earlier stocking events, but were able to reduce the number of potential donor rivers by examining the records of egg collections within the Maritime Provinces. Eggs were collected from inner Bay rivers in two years between 1900 and 1965. Most collections were made from the Saint John and Miramichi Rivers in New Brunswick during this time period.

RÉSUMÉ

Les populations de saumons atlantiques de l'intérieur de la baie de Fundy ont été désignées par le Comité sur la situation des espèces en péril au Canada comme étant « en voie de disparition » en mai 2001. Les stocks de saumons de nombreuses rivières de cette région ont été mis en valeur par des activités d'ensemencement de poissons élevés en pisciculture. Nous avons rassemblé des données sur les activités d'ensemencement menées dans cette région entre 1900 et 2002. Au total, en ne tenant pas compte des années de 1968 à 1971 et 1974, un peu plus de 40 millions de saumons ont été mis à l'eau dans 33 rivières de la région. La majorité de ces poissons ont été mis à l'eau au stade d'alevin avant 1960. Au fil du XX^{e} siècle, les saumons ont été ensemencés à différents stades : alevins (début du siècle); tacons (milieu); saumoneaux (fin). Depuis 1970, la plupart des saumons ensemencés proviennent de l'intérieur de la baie. Nous n'avons pu déterminer le stock d'origine de la plupart des poissons utilisés lors des ensemencements antérieurs, mais nous avons réussi à réduire le nombre de rivières possibles en examinant les données sur les cueillettes d'œufs effectuées dans les provinces maritimes. Des œufs ont été recueillis dans les rivières de la partie intérieure de la baie de Fundy au cours de deux années entre 1900 et 1965. Durant cette période, la plupart des cueillettes ont été effectuées dans les rivières Saint-Jean et Miramichi au Nouveau-Brunswick.

INTRODUCTION

Populations of Atlantic salmon *Salmo salar* within the inner Bay of Fundy (iBoF) have experienced steep declines in abundance, and are presently listed as endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). At least 32 rivers within the iBoF are known to have supported Atlantic salmon populations (DFO 2003). These populations are thought to be distinct from populations in other Maritime Province rivers because of their high proportion of fish that return to spawn after one winter at sea and annual abundance patterns that differ from populations in the outer Bay of Fundy. Tagging studies (Jessop 1976) suggest a local sea migration pattern that also differs from other populations.

Towards the objective of developing a recovery strategy for inner Bay of Fundy salmon, we are attempting to obtain estimates of historical abundance, productivity and survival for salmon populations in the iBoF that can be used as a baseline against which current abundance and survival may be compared. Many of these rivers have a history of population enhancement through the release of hatchery-raised salmon of various ages into the rivers. While these releases may have increased abundance within these rivers, they also have the potential to have masked earlier declines in wild production and to bias estimates of historical abundance. Our purpose in this document is to provide a record of the distribution of hatchery-reared Atlantic salmon within iBoF rivers from 1900 to 2002 that may aid in the interpretation of data for these populations.

METHODS

We sought information about the number of fish released into iBoF rivers by year, river, age or life stage and stock origin. The Diadromous Fish Division, Maritimes Region, Department of Fisheries and Oceans maintains a hatchery distribution database that contains information about stocking activities from federally-operated fish culture stations in the Maritimes Region since 1976. This database was queried for information about releases into iBoF rivers for the years 1976 to 2002. Data for years prior to 1976 was obtained from internal DFO files, from annual reports of the Department of Fisheries and Oceans (and its predecessors), and from miscellaneous technical and data reports. Sources of the information are provided in the references. This search provides information about releases by federal fisheries agencies but would not necessarily find records of releases by other federal, provincial or non-governmental agencies.

RESULTS AND DISCUSSION

We were able to find fish distribution records for all years since 1900 except for 1968 to 1971, and 1974 (data were found for these years for the Big Salmon River). These records document the release of 40,635,220 salmon of various life stages into 33 rivers around the inner Bay since 1900. The vast majority of these fish were stocked as fry (32,174,204), many during the period of 1930 to 1960 (Figure 1). Fewer parr (7,632,191), smolt (812,606) and adults (1,218) have been released into iBoF rivers.

The practice of releasing smolt is relatively new for iBoF rivers, beginning on the Shubenacadie River in 1951, in 1956 on the Big Salmon River and 1960 for the Black River, NB. The adult releases include 257 fish released into the Big Salmon River between 1957 and 1961, 624 fish released into the Big Salmon River in 1994 and 1995, 189 fish released into the Salmon River near Truro in 2002, 67 fish released into the Petitcodiac River in 1995 and 53 fish released into the Petitcodiac River during 2002. Evident in Figure 1 is the shift in release strategies from fry in the early 1900's to predominantly parr in the mid 1900's and to primarily smolt in the 1980's and 1990's. Distribution of salmon to these rivers apparently stopped during World War I.

The hatchery distribution database contains information about the origin of fish released into Maritime Region rivers. Information about the origin of released fish is therefore relatively complete from 1976 onwards. Less information is available prior to 1976. Where information about the origin of stocked fish is available (e.g. technical reports or files), it is included herein. In recent years, the majority of stocking events involve the release of progeny of broodstock collected from that river (Figures 2.1 to 2.8, Table 1, Appendix I). Exceptions are primarily transfers of between iBoF rivers to rebuild populations that were essentially extirpated (Table 1). Exceptions include the release of Restigouche and Miramichi River progeny into the Big Salmon River in the 1960's, releases of Saint John River progeny into the Black River in the 1980's (the Black River is in close geographic proximity to the Saint John River) and the release of Saint John River progeny into the Petitcodiac River, also in the 1980's (Table 1). For most stocking events prior to 1976, we inferred stock origin based on the egg collections reported the previous year (or years, if a time lag greater than 1 year was appropriate). For many release events, we were unable to determine the river of origin (if eggs were collected from more than one river), but could exclude inner Bay of Fundy rivers if eggs were not collected from this region. In the time period 1900 to 1908, eggs were collected only from the Miramichi, Restigouche and Saint John Rivers, with over half the eggs collected from the Saint John River (Table 2). With the exception of 1932 and 1933, when eggs were collected from the Cornwallis River, we did not find records of egg collections from inner Bay of Fundy rivers between 1900 and 1965. The egg collections on the Cornwallis River represented less than less than 0.1% of the total eggs collected in those years. Based on these observations, we concluded that the vast majority of salmon released into inner Bay of Fundy rivers were not the progeny of inner Bay of Fundy broodstock.

Other than the observation that the release about 40 million salmon into inner Bay of Fundy rivers was insufficient to maintain abundance at levels that would preclude their listing as an endangered species, the effects of stocking in these rivers is unknown. Also unknown at present is the status of these populations prior to the stocking, although there is evidence that some populations were at low levels in the late 1800's and early 1900's. For example, the 49th Annual Report of the Fisheries Branch, Department of the Naval Service, 1915-16, Canada, states that "Salmon are also reported to be again frequenting the rivers of Hants and Kings counties, Nova Scotia, as a result of the distribution from the Windsor hatchery." This statement implies that populations in that area were at very low levels prior to stocking in the early 1900's. Additionally, many rivers around the

inner Bay of Fundy were intermittently dammed for forestry purposes in the late 1800's through the mid-1900's (e.g. Perley 1852). The resultant reduction or elimination of access to spawning areas, coupled with commercial and recreational exploitation, is also suggestive of low population levels in some rivers during this time period.

While the numbers of fry released into iBoF rivers in the early 1900's appears high, they are on the order of releases into some other rivers. For example, from the inception of hatcheries in the Atlantic Provinces during the 1870's and 1880's to the early 1960's, about 170 million salmon fry, advanced fry and fingerlings were released into the St. John River, NB (Marshall et al. 1994). Elson (1957) concluded that the contributions resulting from the release of fry to the adult population in most Maritime Province rivers were likely negligible.

Despite extensive stocking of fish originating from outside the inner Bay of Fundy, iBoF salmon have maintained a unique genetic signature. Verspoor et al. (2002) describe a haplotype of the ND1 mtDNA gene found in Minas Basin salmon (part of the iBoF assemblage), but not in salmon from other rivers. However, they also found more genetic variability than anticipated based on similar analyses of Baltic and non-Baltic phylogenetic groups in Europe. IBoF salmon showed greater genetic variability than did salmon in the outer Bay of Fundy, despite the larger size of some of the outer Bay populations.

The philosophy underlying the release of salmon into iBoF rivers fundamentally changed with the implementation of the Live Gene Bank Program (O'Neil et al., in review) for inner Bay of Fundy Atlantic salmon. Prior to the onset of this program, stocking occurred primarily as a fisheries enhancement tool with the objective of increasing yields and economic benefits from commercial and recreational fisheries. The Live Gene Bank Program was initiated to maintain the potential for iBoF salmon recovery by preserving the genetic base thought to be representative of the population. The program consists of two components: the captive and "in-river" live gene banks. Since the onset of the program (the first releases from the iBoF Live Gene Bank occurred in 2001), the release of salmon into iBoF rivers has been part of the "in-river" component of the program. Here, salmon of various ages are released into the rivers to provide exposure to the natural environment to allow natural selection to occur. A portion of these fish is then captured and brought back into the captive component of the program and mated according to a strategy designed to minimise inbreeding depression. In this way, salmon populations are being maintained though supportive rearing while attempting to limit the effects of domestication and selection of deleterious traits at times associated with fish culture programs (Aprahamian et al. 2003).

Data are available in electronic format from the authors.

ACKNOWLEDGEMENTS

The authors thank Debbie Stewart for querying the Hatchery Distribution Database and providing data for the years 1976 to 2002. The authors also thank Ross Jones, Karen Rutherford and Shane O'Neil for helpful comments on earlier versions of this manuscript.

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Table 1. Introductions of non-native (to the river) Atlantic salmon into inner Bay of Fundy Rivers for which the origin of the stock is known.

River	Year	Life Stage	Number of Fish	Stock Origin
Apple River	1932	fry	23,500	Restigouche River
Big Salmon River	1964	smolt	17,766	Miramichi River
Big Salmon River	1965	smolt	19,985	Miramichi River
Big Salmon River	1966	parr	18,379	Miramichi River
Big Salmon River	1967	fry	47,120	Miramichi River
Big Salmon River	1967	parr	2,325	Miramichi River
Big Salmon River	1968	smolt	9,969	Restigouche River
Big Salmon River	1969	smolt	9,843	Restigouche River
Black River	1978	parr	40	Waweig River
Black River	1982	smolt	9,685	Saint John River
Black River	1983	smolt	2,833	Saint John River
Black River	1983	fry	1,947	Saint John River
Black River	1985	fry	39,660	Saint John River
Black River	1986	fry	25,807	Saint John River
Black River	1987	fry	27,998	Saint John River
Black River	1988	smolt	580	Saint John River
Chiganois River	2002	fry	51,000	Stewiacke River
Chiganois River	2002	parr	37,081	Stewiacke River
Cornwallis River	1984	smolt	649	River Phillip
Cornwallis River	1985	smolt	2,424	North River (Truro)
Debert River	2002	parr	45,510	Stewiacke River
Debert River	2002	fry	37,000	Stewiacke River
Demoiselle Creek	2001	fry	16,222	Big Salmon River
Demoiselle Creek	2002	fry	10,080	Big Salmon River
Demoiselle Creek	2002	smolt	1,078	Big Salmon River
Folly River	1985	fry	620	Debert River
Folly River	2002	parr	24,570	Stewiacke River
Folly River	2002	fry	59,000	Stewiacke River
Maccan River	1931	fry	72,245	Restigouche River
Parrsboro River	1995	parr	7,616	Gaspereau River
Parrsboro River	1996	smolt	5,984	Gaspereau River
Parrsboro River	1996	parr	41,700	Gaspereau River
Parrsboro River	1997	smolt	18,450	Gaspereau River
Petitcodiac River	1973	parr	24,032	Big Salmon River
Petitcodiac River	1975	fry	24,000	Big Salmon River
Petitcodiac River	1975	smolt	11,870	Big Salmon River
Petitcodiac River	1980	parr	90,972	Big Salmon River
Petitcodiac River	1982	parr	82,469	Saint John River
Petitcodiac River	1983	parr	31,080	NASRC general stock
Petitcodiac River	1983	smolt	18,045	Saint John River
Petitcodiac River	1983	parr	224,883	Saint John River

(continued)

Table 1 (con't). Introductions of non-native (to the river) Atlantic salmon into inner Bay of Fundy Rivers for which the origin of the stock is known.

River	Year	Life Stage	Number of Fish	Stock Origin
Petitcodiac River	1984	smolt	8,728	Big Salmon River
Petitcodiac River	1984	fry	29,628	NASRC general stock
Petitcodiac River	1984	parr	159,041	Big Salmon River
Petitcodiac River	1984	parr	26,016	Saint John River
Petitcodiac River	1984	parr	7,998	SRC Chamcook Harbour
Petitcodiac River	1985	smolt	20,514	Big Salmon River
Petitcodiac River	1985	fry	11,900	Saint John River
Petitcodiac River	1985	parr	249,795	Big Salmon River
Petitcodiac River	1985	fry	38,778	Big Salmon River
Petitcodiac River	1986	parr	224,249	Big Salmon River
Petitcodiac River	1986	fry	66,822	Big Salmon River
Petitcodiac River	1987	parr	20,501	Big Salmon River
Petitcodiac River	1987	smolt	6,684	Big Salmon River
Petitcodiac River	1987	smolt	2,009	Saint John River
Petitcodiac River	1987	parr	168,000	Saint John River
Petitcodiac River	1987	fry	239,555	Saint John River
Petitcodiac River	1988	parr	263,335	Saint John River
Petitcodiac River	1988	smolt	9,678	Saint John River
Petitcodiac River	1988	fry	106,486	Saint John River
Petitcodiac River	1989	smolt	5,000	Saint John River
Petitcodiac River	1989	parr	189,955	Saint John River
Petitcodiac River	1989	fry	40,180	Saint John River
Petitcodiac River	1990	smolt	6,879	Saint John River
Petitcodiac River	1990	parr	147,470	Saint John River
Petitcodiac River	1990	fry	82,265	Saint John River
Petitcodiac River	1991	smolt	2,942	Big Salmon River
Petitcodiac River	1991	parr	2,998	Saint John River
Petitcodiac River	1995	adult	67	Big Salmon River
Petitcodiac River	1998	smolt	21,333	Saint John River
Petitcodiac River	1999	smolt	15,021	Saint John River
Petitcodiac River	2002	fry	56,159	Big Salmon River
Petitcodiac River	2002	adult	53	Big Salmon River
Point Wolfe River	1982	parr	42,393	Big Salmon River
Point Wolfe River	1983	parr	41,990	Saint John River
Point Wolfe River	1984	parr	41,948	Big Salmon River
Point Wolfe River	1985	parr	39,608	Big Salmon River
Point Wolfe River	1985	fry	2,397	Big Salmon River
Shepody River	1984	parr	4,236	Petitcodiac River
Shepody River	1984	fry	117,104	Saint John River
Shepody River	1985	fry	23,670	Saint John River
Shepody River	1986	fry	25,624	Saint John River
Shubenacadie River	1985	fry	20,000	LaHave River
Salmon River (Truro)	2002	adult	189	Stewiacke River
Tantramar River	1985	fry	3,218	Big Salmon River

Table 2. Atlantic salmon egg collections in the Maritime Provinces 1900 to 1965.

Year	Cornwallis River	Margaree River	Miramichi River	Nepisiguit River	Nictaux River	Restigouche River	River Phillip	Sackville River	Saint John River	Total
1900			1,951,000						5,000,000	6,951,000
1901			815,000			2,150,000			3,750,000	6,715,000
1902			1,530,000			2,500,000			3,200,000	7,230,000
1903			1,470,000						5,393,000	6,863,000
1904			2,375,000			2,756,000			6,466,000	11,597,000
1905			2,375,000			1,000,000			2,192,000	5,567,000
1906			2,855,000			2,300,000			1,529,000	6,684,000
1907			4,000,000						5,600,000	9,600,000
1908			5,275,000			2,055,500			8,500,000	15,830,500
1910		3,620,500	6,048,000			1,951,000			6,617,000	18,236,500
1911										
1912		6,539,000	6,376,000						4,206,000	17,121,000
1913		6,730,000	8,965,000			2,356,500			6,896,500	24,948,000
1914		6,170,000	11,927,000			1,688,000			7,664,000	27,449,000
1915		3,040,000	13,593,000			1,121,500			5,110,000	22,864,500
1916		4,985,000	15,503,000			1,311,000			6,619,000	28,418,000
1921										
1923										
1924		5,676,000	18,287,500	880,000		1,812,050			6,220,000	32,875,550
1925		5,755,000	13,331,750	208,000		1,705,000			8,975,000	29,974,750
1926		4,420,000	17,000,000	210,000		2,000,000			6,600,000	30,230,000
1927		2,640,000	18,000,000	560,000		1,712,000			6,525,000	29,437,000
1928		2,549,766	7,470,723			1,723,235	2,460,500		7,239,660	21,443,884
1931		2,387,000	9,693,630		699,600	2,403,481	3,803,100		10,849,236	29,836,047
1932	27,000	2,913,000			499,909		2,125,840	1,130,500	6,338,200	13,034,449
1933	32,200	2,092,000	1,002,128		1,045,500	1,350,131	4,635,900	842,600	3,442,640	14,443,099
1934		4,134,000	8,830,077		396,000	2,342,098	131,445	158,000	5,561,010	21,552,630

continued

Table 2 (con't). Atlantic salmon egg collections in the Maritime Provinces 1900 to 1965.

Year	Cornwallis River	Margaree River	Miramichi River	Nepisiguit River	Nictaux River	Restigouche River	River Phillip	Sackville River	Saint John River	Total
1935		5,450,000	12,929,187		679,200	1,771,450	4,573,100	806,400	3,783,500	29,992,837
1936		3,201,500			514,700	2,351,820	3,579,940	1,030,000	7,013,160	17,691,120
1937		3,471,000	7,624,931		360,014	1,743,974	5,227,300	728,400	6,104,650	25,260,269
1938		5,412,000	8,564,973		100,956	1,821,633	5,951,850	373,500	3,969,105	26,194,017
1939		5,459,000	6,226,568			3,147,707	2,512,800	180,300	1,312,080	18,838,455
1940		2,037,800	5,513,521			2,527,822	7,337,790	635,700	978,650	19,031,283
1941		3,372,825	8,424,827			3,405,655	5,804,544	256,000		21,263,851
1942		4,478,193	7,576,672			2,127,332	7,306,580	57,000		21,545,777
1943		3,836,870	8,469,720			1,051,320	6,724,990	520,730		20,603,630
1944		3,535,520	9,301,480			1,805,620	7,131,000	592,720	6,500	22,372,840
1945		4,476,450	8,044,370			1,340,950	1,025,700	845,360	11,500	15,744,330
1946		4,088,250	6,242,720			2,716,210	1,624,850	1,145,200		15,817,230
1947		5,029,300	9,028,090			2,198,630	3,675,620	175,000		20,106,640
1948		4,463,530	9,539,650			3,237,850	6,253,000	134,000	10,400	23,638,430
1949						2,580,000				2,580,000
1950						2,028,000				2,028,000
1951						596,600				596,600
1956										
1958		1,033,600	11,735,770		21,350	3,529,610	2,532,320	246,940	601,645	19,701,235
1959		592,920	11,776,580			2,632,650	2,940,600	273,000	1,106,640	19,322,390
1960		1,403,500	12,004,050			5,070,500	2,748,640	104,400	814,870	22,145,960
1961		1,949,030	9,749,600			2,803,720	3,707,440		499,750	18,709,540
1962		232,130	10,097,430			3,591,700	3,295,400		433,550	17,650,210
1963		1,034,913	5,003,850			1,628,400	2,083,600		699,960	10,450,723
1964		451,861	6,524,100			3,064,640	1,071,360		284,700	11,396,661
1965		687,430	5,228,402			3,940,900	556,500		143,576	10,556,808

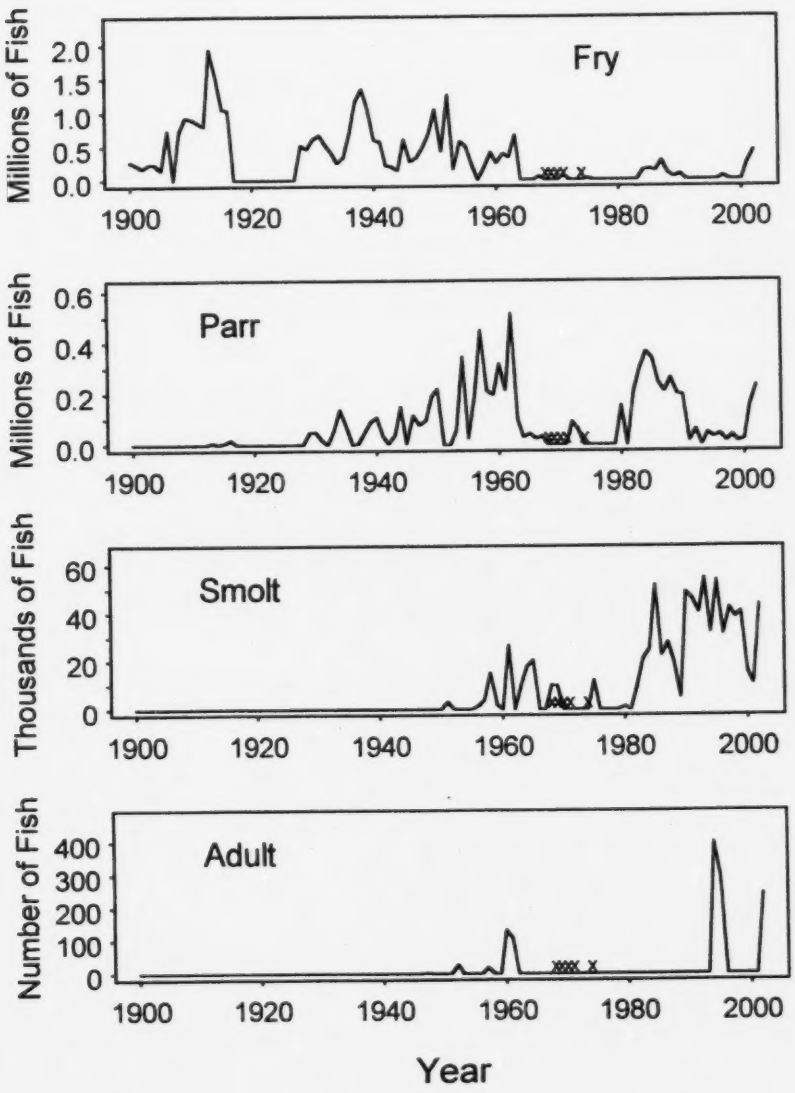

Figure 1. Number of hatchery-reared Atlantic salmon distributed to inner Bay of Fundy rivers from 1900 to 2002. X's mark years with missing data. Note scale differences between graphs.

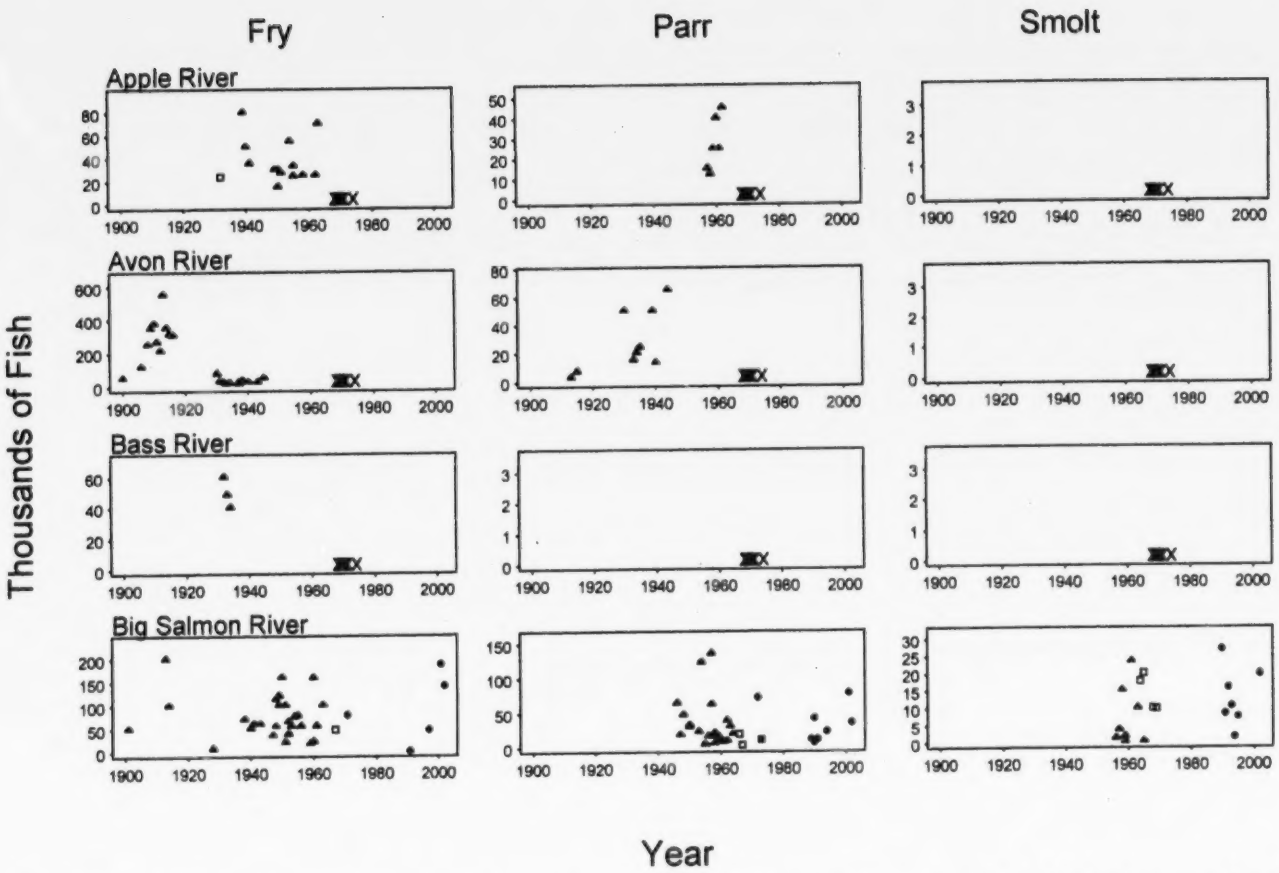

Figure 2.1 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

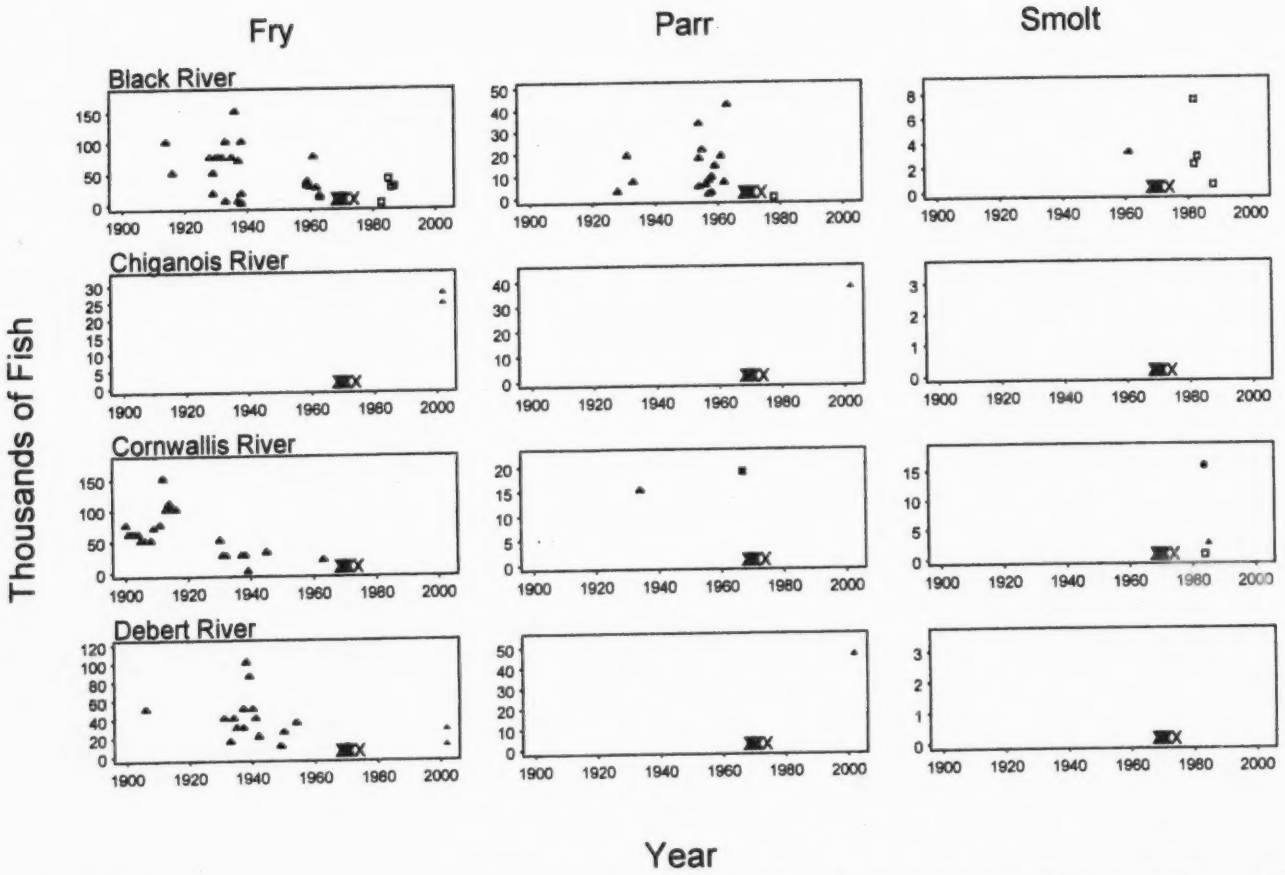

Figure 2.2 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

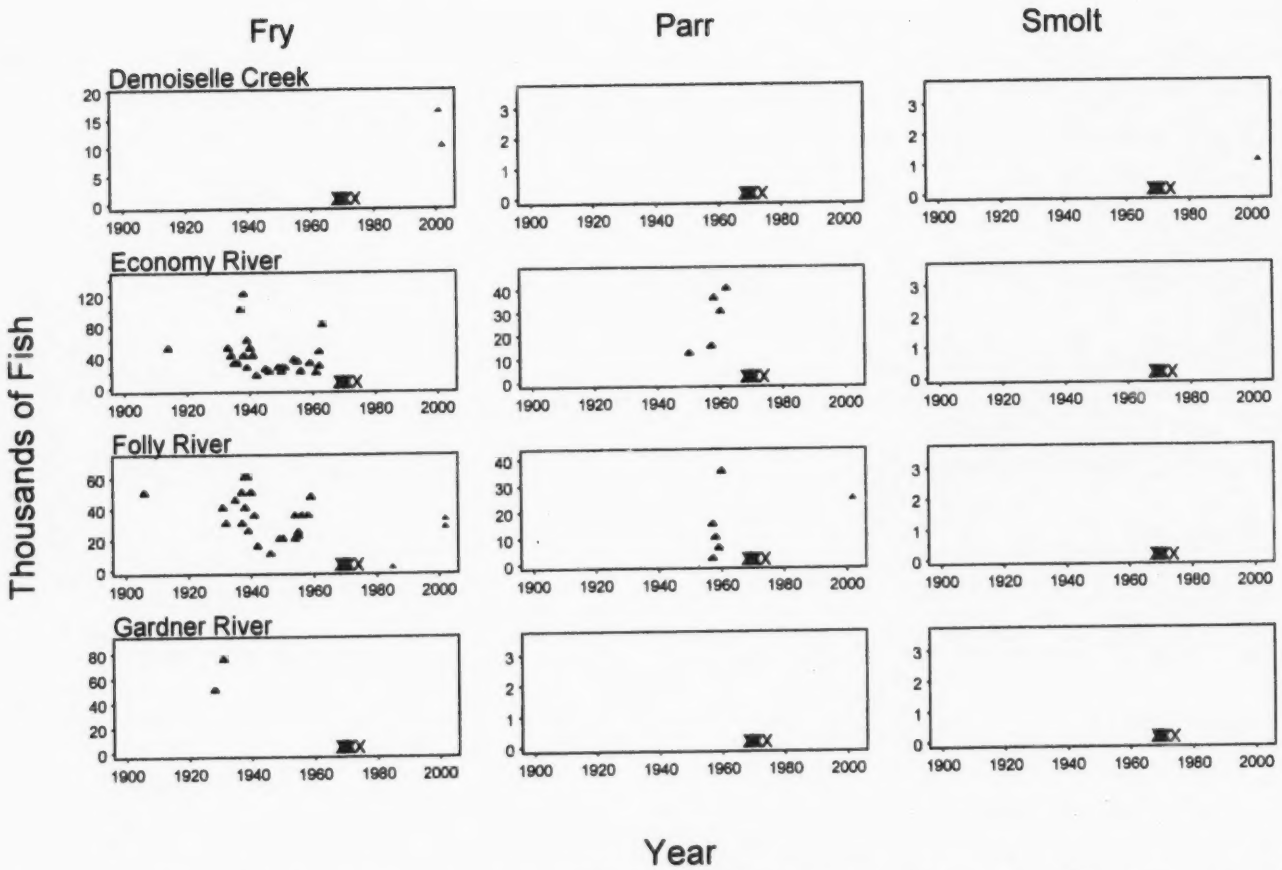

Figure 2.3 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

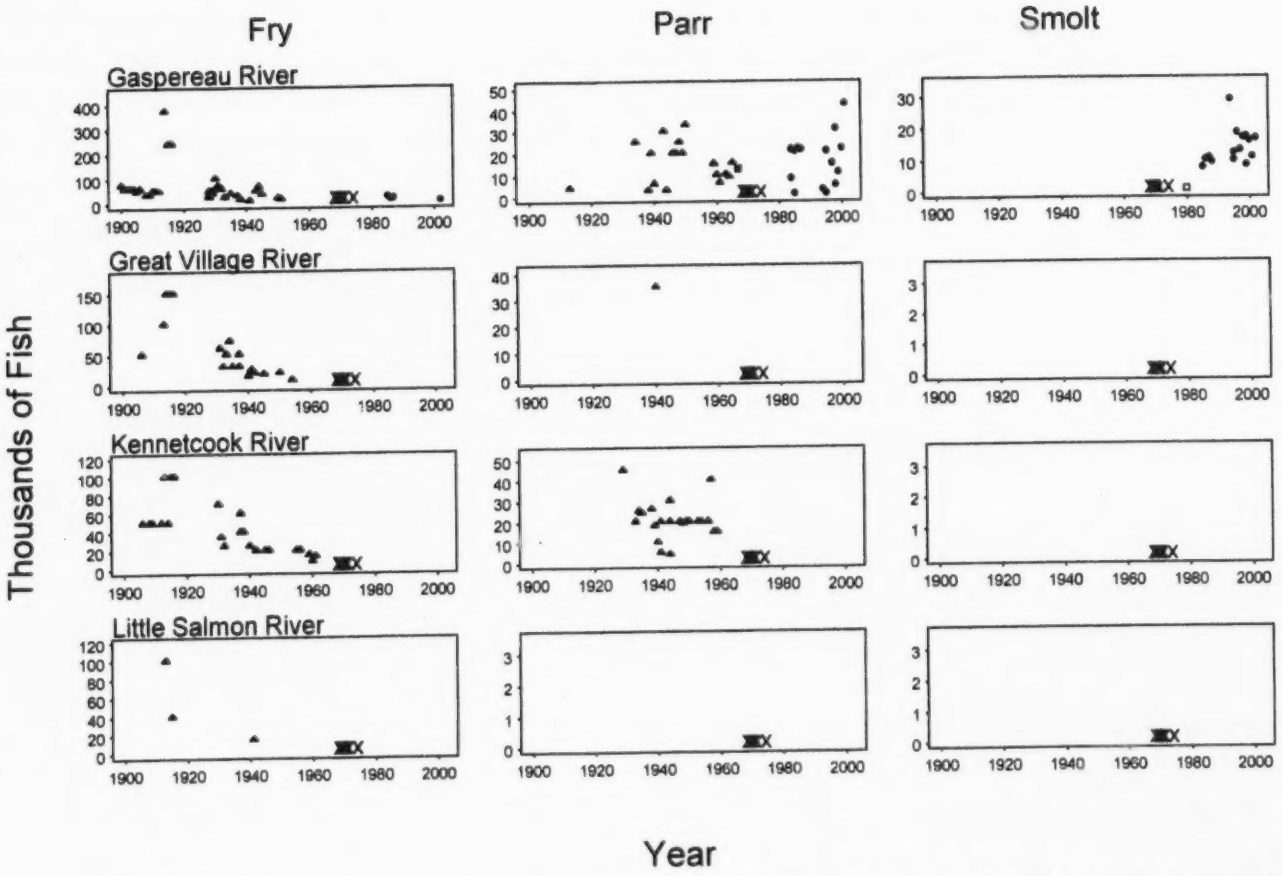

Figure 2.4 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

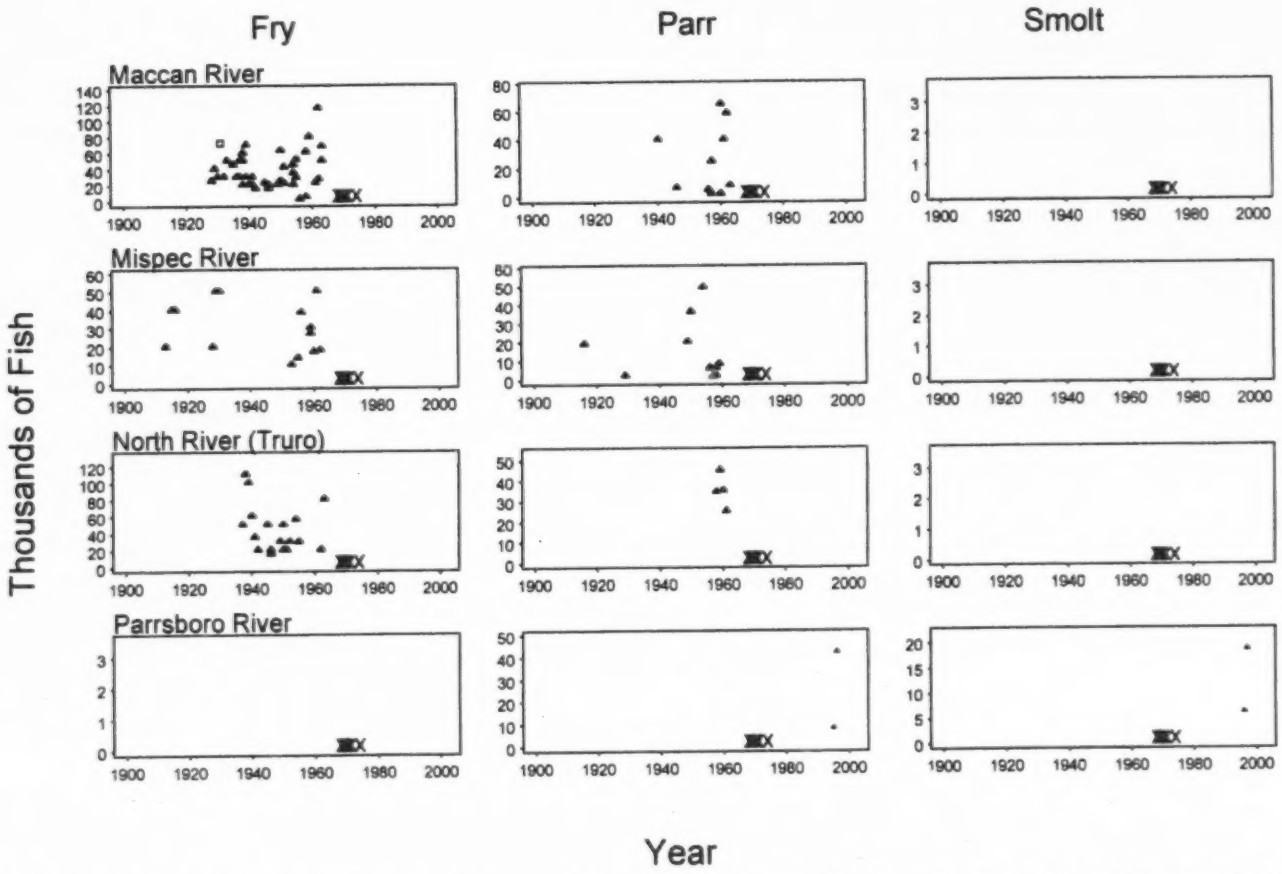

Figure 2.5 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

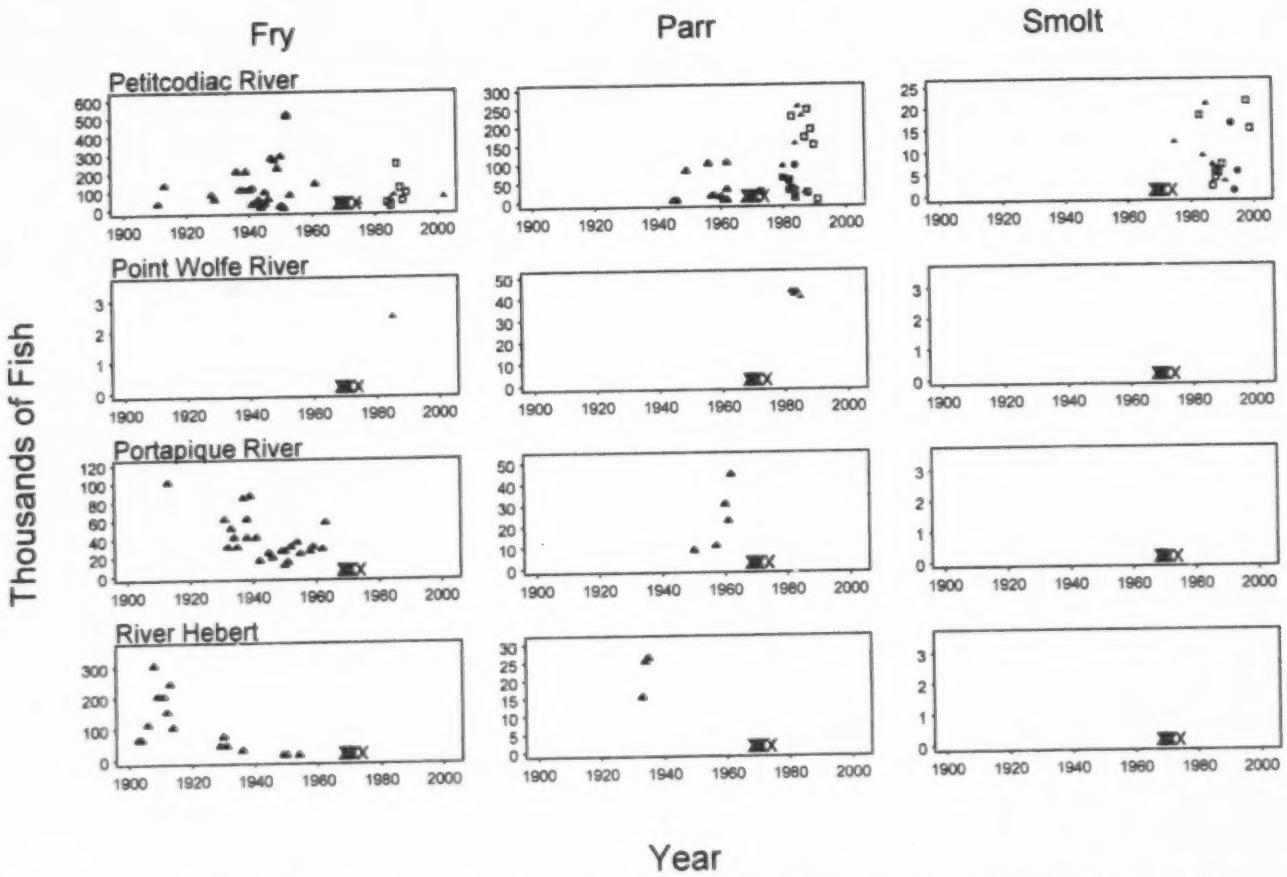

Figure 2.6 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

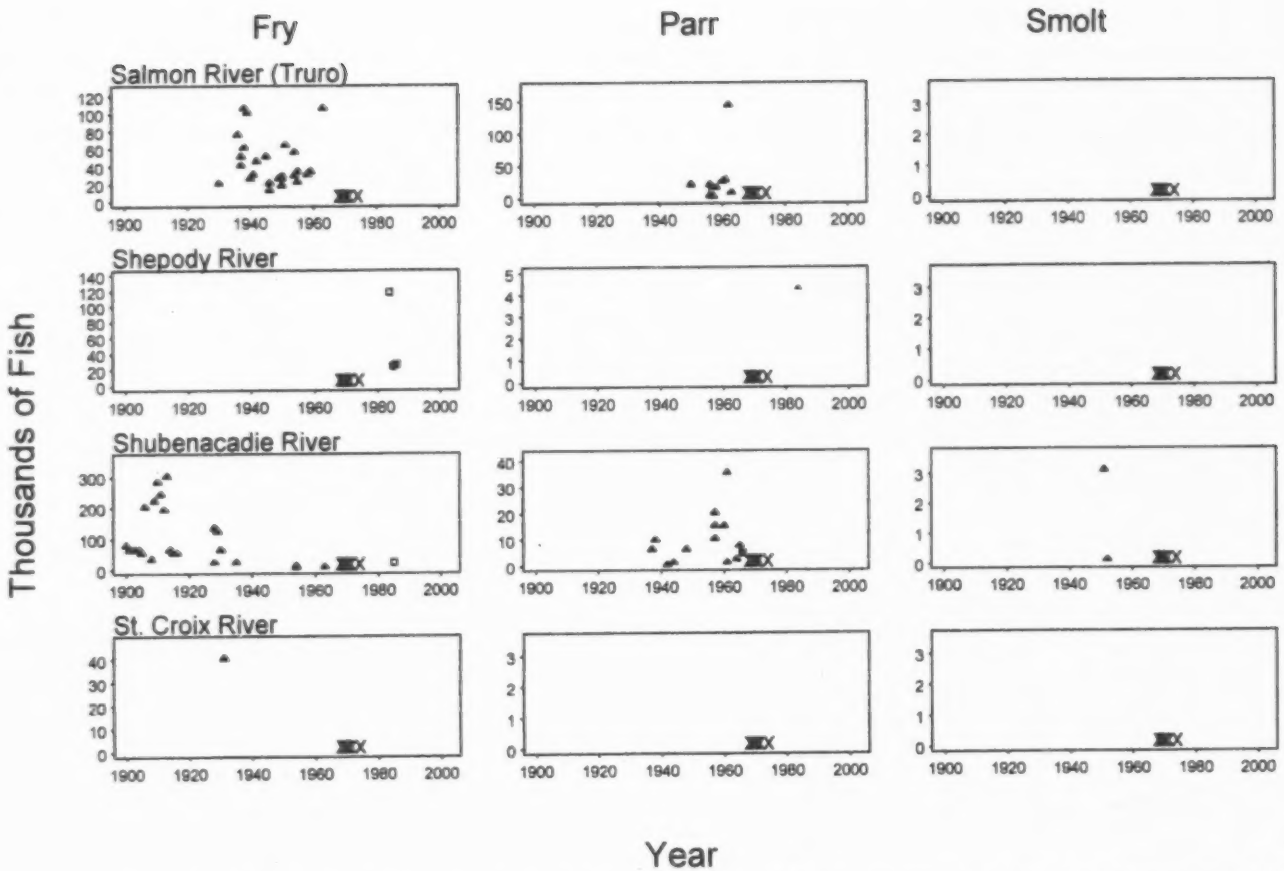

Figure 2.7 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

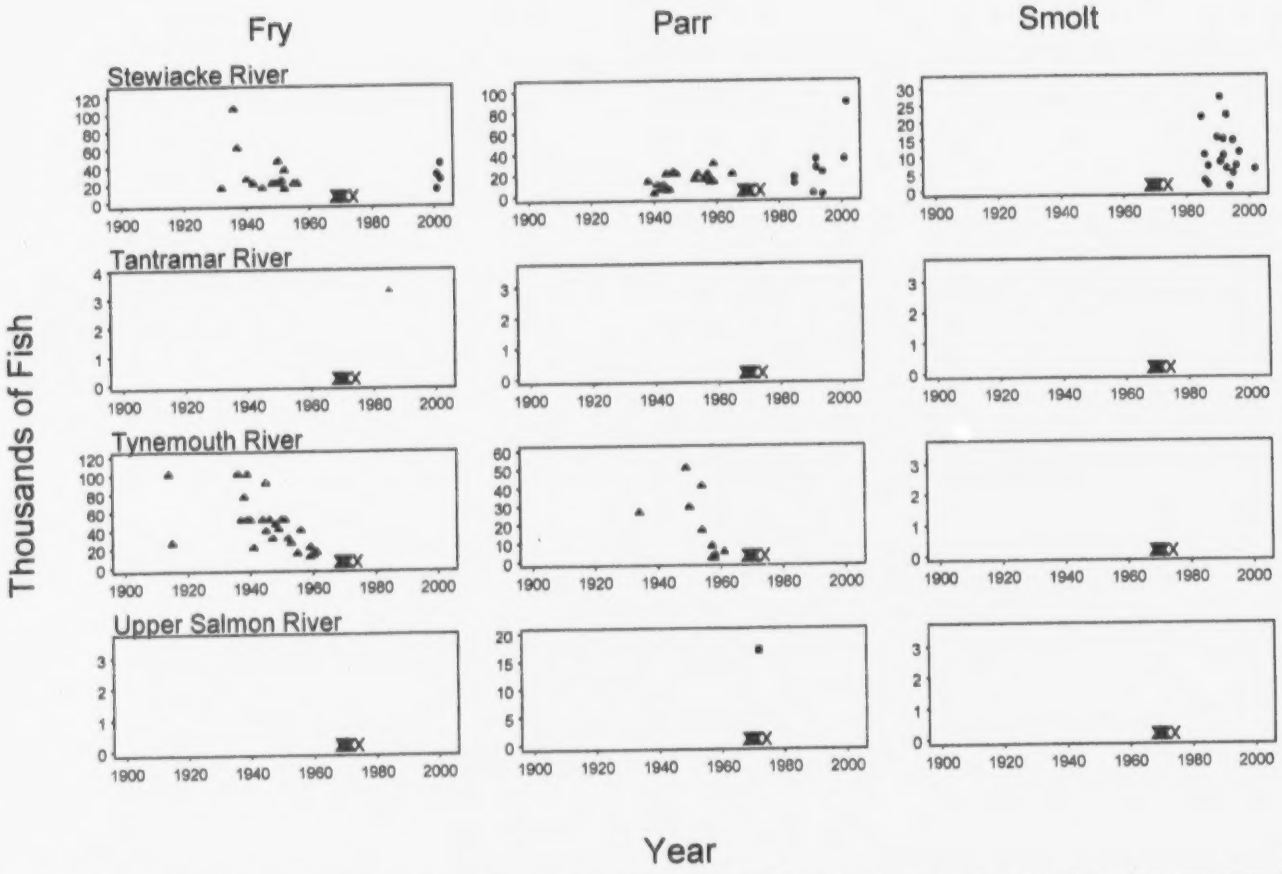

Figure 2.8 Stocking of Atlantic salmon fry, parr and smolt into inner Bay of Fundy rivers by federal fisheries agencies from 1900 to 2002. Symbols code for the stock of origin of the release fish: ● progeny originating from the river of release, ▲ progeny originating from another river in the inner Bay of Fundy, □ known origin non-inner Bay of Fundy progeny, Δ unknown origin non-inner Bay of Fundy progeny, and ■ progeny whose origin is presently unknown. X's marked years with missing data. Note scale differences between graphs.

Appendix 1. Releases of Atlantic salmon by federal fisheries agencies into inner Bay of Fundy rivers from 1900 to 2002 (excluding 1968 - 1971 and 1974).

River	Year	Life Stage	Number	Stock Origin
Apple R.	1932	<1 week	23500	Restigouche R.
Apple R.	1939	2-8 weeks	80000	
Apple R.	1940	2-8 weeks	50000	
Apple R.	1941	2-8 weeks	35000	
Apple R.	1949	2-8 weeks	30000	
Apple R.	1950	2-8 weeks	30000	
Apple R.	1950	8-14 weeks	15000	
Apple R.	1951	2-8 weeks	27000	
Apple R.	1954	2-8 weeks	55000	
Apple R.	1955	2-8 weeks	33000	
Apple R.	1955	8-14 weeks	24000	
Apple R.	1957	14-20 weeks	15000	
Apple R.	1958	8-14 weeks	25000	
Apple R.	1958	14-20 weeks	12000	
Apple R.	1959	14-20 weeks	25000	
Apple R.	1960	14-20 weeks	40000	
Apple R.	1961	14-20 weeks	25000	
Apple R.	1962	2-8 weeks	25000	
Apple R.	1962	14-20 weeks	45000	
Apple R.	1963	8-14 weeks	70000	
Avon R.	1900	fry	50000	
Avon R.	1906	fry	115000	
Avon R.	1908	fry	250000	
Avon R.	1909	fry	350000	
Avon R.	1910	fry	375000	
Avon R.	1911	fry	265000	
Avon R.	1912	fry	210000	
Avon R.	1913	fry	552000	
Avon R.	1913	fingerling	3300	
Avon R.	1914	fry	350000	
Avon R.	1915	fry	313000	
Avon R.	1915	fingerling	7175	
Avon R.	1916	fry	303050	
Avon R.	1930	14-20 weeks	50000	
Avon R.	1930	8-14 weeks	75000	
Avon R.	1931	2-8 weeks	30000	
Avon R.	1932	8-14 weeks	25000	
Avon R.	1933	8-14 weeks	15000	
Avon R.	1933	14-20 weeks	15000	

River	Year	Life Stage	Number	Stock Origin
Avon R.	1934	8-14 weeks	20000	
Avon R.	1934	14-20 weeks	20000	
Avon R.	1935	14-20 weeks	24000	
Avon R.	1937	2-8 weeks	25000	
Avon R.	1937	8-14 weeks	15000	
Avon R.	1938	8-14 weeks	35000	
Avon R.	1939	14-20 weeks	50000	
Avon R.	1940	8-14 weeks	25000	
Avon R.	1940	14-20 weeks	13000	
Avon R.	1943	2-8 weeks	25000	
Avon R.	1944	14-20 weeks	65000	
Avon R.	1945	2-8 weeks	50000	
Bass R.	1932	2-8 weeks	60000	
Bass R.	1933	2-8 weeks	48270	
Bass R.	1934	2-8 weeks	40000	
Big Salmon R.	1901	fry	50000	
Big Salmon R.	1913	fry	200000	
Big Salmon R.	1914	fry	100000	
Big Salmon R.	1928	2-8 weeks	6777	
Big Salmon R.	1938	2-8 weeks	70000	
Big Salmon R.	1940	<2 weeks	50000	
Big Salmon R.	1941	<2 weeks	60000	
Big Salmon R.	1943	2-8 weeks	60000	
Big Salmon R.	1946	14-20 weeks	63522	
Big Salmon R.	1947	8-14 weeks	35000	
Big Salmon R.	1947	14-20 weeks	17526	
Big Salmon R.	1948	2-8 weeks	112000	
Big Salmon R.	1948	8-14 weeks	55000	
Big Salmon R.	1948	14-20 weeks	46600	
Big Salmon R.	1949	2-8 weeks	100000	
Big Salmon R.	1949	8-14 weeks	120000	
Big Salmon R.	1950	2-8 weeks	160000	
Big Salmon R.	1950	14-20 weeks	28700	
Big Salmon R.	1950	20-26 weeks	32000	
Big Salmon R.	1951	2-8 weeks	100000	
Big Salmon R.	1951	8-14 weeks	20509	
Big Salmon R.	1952	2-8 weeks	65000	
Big Salmon R.	1952	8-14 weeks	38367	
Big Salmon R.	1953	2-8 weeks	55000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Big Salmon R.	1953	14-20 weeks	22000	
Big Salmon R.	1954	2-8 weeks	75000	
Big Salmon R.	1954	14-20 weeks	122917	
Big Salmon R.	1955	8-14 weeks	77700	
Big Salmon R.	1955	parr/smolt 1+	3758	
Big Salmon R.	1956	2-8 weeks	56000	
Big Salmon R.	1956	parr/smolt 1+	15446	
Big Salmon R.	1956	smolt 3+	1242	
Big Salmon R.	1957	20-26 weeks	135000	
Big Salmon R.	1957	parr/smolt 1+	61615	
Big Salmon R.	1957	smolt 2+	3661	
Big Salmon R.	1957	adult	18	
Big Salmon R.	1958	26-52 weeks	20000	
Big Salmon R.	1958	parr/smolt 1+	5000	
Big Salmon R.	1958	smolt 2+	15057	
Big Salmon R.	1959	parr/smolt 1+	25746	
Big Salmon R.	1959	8-14 weeks	17920	
Big Salmon R.	1959	smolt 2+	1771	
Big Salmon R.	1959	smolt 3+	191	
Big Salmon R.	1960	2-8 weeks	158220	
Big Salmon R.	1960	8-14 weeks	22000	
Big Salmon R.	1960	20-26 weeks	9760	
Big Salmon R.	1960	parr/smolt 1+	9779	
Big Salmon R.	1960	adult	132	
Big Salmon R.	1961	2-8 weeks	55860	
Big Salmon R.	1961	parr/smolt 1+	7380	
Big Salmon R.	1961	smolt 2+	23428	
Big Salmon R.	1961	adult	107	
Big Salmon R.	1962	20-26 weeks	37932	
Big Salmon R.	1962	parr/smolt 1+	8565	
Big Salmon R.	1963	smolt 2+	9997	
Big Salmon R.	1963	parr/smolt 1+	29652	
Big Salmon R.	1963	2-8 weeks	100000	
Big Salmon R.	1964	parr/smolt 1+	18746	
Big Salmon R.	1964	smolt 2+	17766	Miramichi R.
Big Salmon R.	1965	smolt 2+	19985	Miramichi R.
Big Salmon R.	1965	smolt 3+	335	
Big Salmon R.	1966	parr >1+	18379	Miramichi R.
Big Salmon R.	1967	8-14 weeks	47120	Miramichi R.
Big Salmon R.	1967	parr/smolt 1+	2325	Miramichi R.
Big Salmon R.	1968	smolt	9969	Restigouche R.
Big Salmon R.	1969	smolt	9843	Restigouche R.
Big Salmon R.	1971	8-14 weeks	78000	Big Salmon R.
Big Salmon R.	1972	parr >1+	71295	Big Salmon R.
Big Salmon R.	1973	parr >1+	9990	
Big Salmon R.	1989	20-26 weeks	10538	Big Salmon R.
Big Salmon R.	1990	parr 1+	5218	Big Salmon R.

River	Year	Life Stage	Number	Stock Origin
Big Salmon R.	1990	smolt 1+	26815	Big Salmon R.
Big Salmon R.	1990	20-26 weeks	41229	Big Salmon R.
Big Salmon R.	1991	smolt 1+	8310	Big Salmon R.
Big Salmon R.	1991	20-26 weeks	10755	Big Salmon R.
Big Salmon R.	1992	smolt 1+	15858	Big Salmon R.
Big Salmon R.	1993	smolt 2+	10578	Big Salmon R.
Big Salmon R.	1994	smolt 1+	1524	Big Salmon R.
Big Salmon R.	1994	20-26 weeks	21614	Big Salmon R.
Big Salmon R.	1994	adult	397	Big Salmon R.
Big Salmon R.	1995	smolt 1+	7348	Big Salmon R.
Big Salmon R.	1995	adult	227	Big Salmon R.
Big Salmon R.	1997	2-8 weeks	46000	Big Salmon R.
Big Salmon R.	2001	unfed fry	185523	Big Salmon R.
Big Salmon R.	2001	parr 0+	77722	Big Salmon R.
Big Salmon R.	2002	fry	138748	Big Salmon R.
Big Salmon R.	2002	parr 0+	34062	Big Salmon R.
Big Salmon R.	2002	smolt	19725	Big Salmon R.
Black R.	1914	fry	100000	
Black R.	1916	fry	50000	
Black R.	1928	<2 weeks	75000	
Black R.	1928	26-52 weeks	2814	
Black R.	1929	<2 weeks	50000	
Black R.	1929	2-8 weeks	17595	
Black R.	1930	<2 weeks	75000	
Black R.	1931	<1 week	75000	
Black R.	1931	20-26 weeks	18652	
Black R.	1932	<1 week	75000	
Black R.	1932	<2 weeks	75000	
Black R.	1933	<1 week	100000	
Black R.	1933	2-8 weeks	5000	
Black R.	1933	14-20 weeks	7000	
Black R.	1935	<2 weeks	75000	
Black R.	1936	<2 weeks	150000	
Black R.	1937	2-8 weeks	70000	
Black R.	1937	8-14 weeks	4694	
Black R.	1938	<2 weeks	100000	
Black R.	1938	2-8 weeks	17112	
Black R.	1938	8-14 weeks	1512	
Black R.	1954	14-20 weeks	33203	
Black R.	1954	20-26 weeks	17475	
Black R.	1954	26-52 weeks	4822	
Black R.	1955	26-52 weeks	21270	
Black R.	1956	parr/smolt 1+	5600	
Black R.	1957	14-20 weeks	7500	
Black R.	1957	parr/smolt 1+	1335	
Black R.	1958	26-52 weeks	9000	
Black R.	1958	parr/smolt 1+	2000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Black R.	1959	2-8 weeks	35000	
Black R.	1959	8-14 weeks	29335	
Black R.	1959	parr/smolt 1+	14000	
Black R.	1960	2-8 weeks	27000	
Black R.	1961	2-8 weeks	75000	
Black R.	1961	20-26 weeks	18444	
Black R.	1961	smolt 2+	3196	
Black R.	1962	8-14 weeks	25000	
Black R.	1962	parr/smolt 1+	6704	
Black R.	1963	2-8 weeks	13000	
Black R.	1963	8-14 weeks	10000	
Black R.	1963	14-20 weeks	42000	
Black R.	1978	smolt 3+	40	Waweig
Black R.	1982	smolt 1+	7488	Saint John R.
Black R.	1982	smolt 2+	2197	Saint John R.
Black R.	1983	smolt 1+	2833	Saint John R.
Black R.	1983	8-14 weeks	1947	Saint John R.
Black R.	1985	< 2 weeks	39660	Saint John R.
Black R.	1986	8-14 weeks	25807	Saint John R.
Black R.	1987	8-14 weeks	27998	Saint John R.
Black R.	1988	smolt 2+	580	Saint John R.
Chiganois R.	2002	6 weeks	27000	Stewiacke R.
Chiganois R.	2002	unfed fry	24000	Stewiacke R.
Chiganois R.	2002	20-26 weeks	37081	Stewiacke R.
Cornwallis R.	1900	fry	75000	
Cornwallis R.	1901	fry	60000	
Cornwallis R.	1902	fry	60000	
Cornwallis R.	1903	fry	60000	
Cornwallis R.	1904	fry	60000	
Cornwallis R.	1905	fry	50000	
Cornwallis R.	1906	fry	50000	
Cornwallis R.	1908	fry	50000	
Cornwallis R.	1909	fry	70000	
Cornwallis R.	1911	fry	75000	
Cornwallis R.	1912	fry	150000	
Cornwallis R.	1913	fry	100000	
Cornwallis R.	1914	fry	110000	
Cornwallis R.	1915	fry	100000	
Cornwallis R.	1916	fry	100000	
Cornwallis R.	1930	8-14 weeks	50000	
Cornwallis R.	1931	8-14 weeks	25000	
Cornwallis R.	1932	8-14 weeks	25000	
Cornwallis R.	1934	14-20 weeks	15000	
Cornwallis R.	1937	8-14 weeks	25000	
Cornwallis R.	1938	2-8 weeks	25000	
Cornwallis R.	1945	8-14 weeks	30000	
Cornwallis R.	1963	fry	17400	

River	Year	Life Stage	Number	Stock Origin
Cornwallis R.	1967	parr 0+/1+	18870	
Cornwallis R.	1984	smolt 1+	649	R. Phillip
Cornwallis R.	1984	smolt 1+	15548	Cornwallis R.
Cornwallis R.	1985	smolt 2+	2424	North R. (Truro)
Debert R.	1906	fry	50000	
Debert R.	1931	2-8 weeks	40000	
Debert R.	1933	8-14 weeks	15000	
Debert R.	1934	2-8 weeks	40000	
Debert R.	1935	8-14 weeks	30000	
Debert R.	1937	<2 weeks	50000	
Debert R.	1937	2-8 weeks	30000	
Debert R.	1938	2-8 weeks	100000	
Debert R.	1939	2-8 weeks	85000	
Debert R.	1940	2-8 weeks	50000	
Debert R.	1941	2-8 weeks	40000	
Debert R.	1942	8-14 weeks	20000	
Debert R.	1949	2-8 weeks	10000	
Debert R.	1950	2-8 weeks	25000	
Debert R.	1954	2-8 weeks	35000	
Debert R.	2002	parr 0+	45510	Stewiacke R.
Debert R.	2002	6 weeks	27000	Stewiacke R.
Debert R.	2002	unfed fry	10000	Stewiacke R.
Demoiselle Cr.	2001	unfed fry	16222	Big Salmon R.
Demoiselle Cr.	2002	fry	10080	Big Salmon R.
Demoiselle Cr.	2002	smolt	1078	Big Salmon R.
Economy R.	1914	fry	50000	
Economy R.	1933	2-8 weeks	50000	
Economy R.	1934	2-8 weeks	40000	
Economy R.	1935	2-8 weeks	30000	
Economy R.	1936	8-14 weeks	30720	
Economy R.	1937	2-8 weeks	100000	
Economy R.	1938	<2 weeks	120000	
Economy R.	1938	2-8 weeks	40000	
Economy R.	1939	2-8 weeks	25000	
Economy R.	1939	<2 weeks	60000	
Economy R.	1940	2-8 weeks	50000	
Economy R.	1941	2-8 weeks	40000	
Economy R.	1942	8-14 weeks	15000	
Economy R.	1945	<2 weeks	23000	
Economy R.	1946	2-8 weeks	20000	
Economy R.	1949	<2 weeks	25000	
Economy R.	1950	<2 weeks	25000	
Economy R.	1950	2-8 weeks	20000	
Economy R.	1950	14-20 weeks	12000	
Economy R.	1951	8-14 weeks	25000	
Economy R.	1954	2-8 weeks	35000	
Economy R.	1955	2-8 weeks	33000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Economy R.	1956	8-14 weeks	20000	
Economy R.	1957	14-20 weeks	15000	
Economy R.	1958	14-20 weeks	36000	
Economy R.	1959	8-14 weeks	30000	
Economy R.	1960	14-20 weeks	30000	
Economy R.	1961	8-14 weeks	18000	
Economy R.	1962	2-8 weeks	27000	
Economy R.	1962	8-14 weeks	45000	
Economy R.	1962	14-20 weeks	40000	
Economy R.	1963	8-14 weeks	80000	
Folly R.	1906	fry	50000	
Folly R.	1931	2-8 weeks	40000	
Folly R.	1932	2-8 weeks	30000	
Folly R.	1935	2-8 weeks	45000	
Folly R.	1937	<2 weeks	50000	
Folly R.	1937	2-8 weeks	30000	
Folly R.	1938	<2 weeks	60000	
Folly R.	1938	2-8 weeks	40000	
Folly R.	1939	<2 weeks	60000	
Folly R.	1939	2-8 weeks	25000	
Folly R.	1940	2-8 weeks	50000	
Folly R.	1941	<2 weeks	35000	
Folly R.	1942	2-8 weeks	15000	
Folly R.	1946	2-8 weeks	10000	
Folly R.	1949	<2 weeks	20000	
Folly R.	1950	<2 weeks	20000	
Folly R.	1954	2-8 weeks	35000	
Folly R.	1954	8-14 weeks	20000	
Folly R.	1955	2-8 weeks	24000	
Folly R.	1955	8-14 weeks	21500	
Folly R.	1956	8-14 weeks	35000	
Folly R.	1957	14-20 weeks	15000	
Folly R.	1957	parr/smolt 1+	1849	
Folly R.	1958	8-14 weeks	35000	
Folly R.	1958	14-20 weeks	10000	
Folly R.	1959	8-14 weeks	47000	
Folly R.	1959	14-20 weeks	6000	
Folly R.	1960	14-20 weeks	35000	
Folly R.	1985	< 2 weeks	620	Debert R.
Folly R.	2002	parr 0+	24570	Stewiacke R.
Folly R.	2002	6 weeks	27000	Stewiacke R.
Folly R.	2002	unfed fry	32000	Stewiacke R.
Gardner R.	1928	<2 weeks	50000	
Gardner R.	1931	<1 week	75000	
Gaspereau R.	1900	fry	75000	
Gaspereau R.	1901	fry	60000	
Gaspereau R.	1902	fry	60000	

River	Year	Life Stage	Number	Stock Origin
Gaspereau R.	1903	fry	60000	
Gaspereau R.	1904	fry	60000	
Gaspereau R.	1905	fry	50000	
Gaspereau R.	1906	fry	60000	
Gaspereau R.	1908	fry	35000	
Gaspereau R.	1909	fry	35000	
Gaspereau R.	1910	fry	50000	
Gaspereau R.	1911	fry	50000	
Gaspereau R.	1912	fry	50000	
Gaspereau R.	1913	fingerling	4110	
Gaspereau R.	1914	fry	375000	
Gaspereau R.	1915	fry	240000	
Gaspereau R.	1916	fry	240000	
Gaspereau R.	1928	2-8 weeks	25000	
Gaspereau R.	1928	<2 weeks	50000	
Gaspereau R.	1928	8-14 weeks	30000	
Gaspereau R.	1929	2-8 weeks	50000	
Gaspereau R.	1929	8-14 weeks	40000	
Gaspereau R.	1930	8-14 weeks	100000	
Gaspereau R.	1931	8-14 weeks	70000	
Gaspereau R.	1932	8-14 weeks	60000	
Gaspereau R.	1933	8-14 weeks	25000	
Gaspereau R.	1934	14-20 weeks	25000	
Gaspereau R.	1935	8-14 weeks	40000	
Gaspereau R.	1937	2-8 weeks	30000	
Gaspereau R.	1938	8-14 weeks	15000	
Gaspereau R.	1938	14-20 weeks	3000	
Gaspereau R.	1939	14-20 weeks	20000	
Gaspereau R.	1940	14-20 weeks	6000	
Gaspereau R.	1941	8-14 weeks	9100	
Gaspereau R.	1943	8-14 weeks	50000	
Gaspereau R.	1943	14-20 weeks	30000	
Gaspereau R.	1944	2-8 weeks	66080	
Gaspereau R.	1944	20-26 weeks	3110	
Gaspereau R.	1945	8-14 weeks	35000	
Gaspereau R.	1946	14-20 weeks	20000	
Gaspereau R.	1947	14-20 weeks	20000	
Gaspereau R.	1948	14-20 weeks	25000	
Gaspereau R.	1949	14-20 weeks	20000	
Gaspereau R.	1950	<2 weeks	20000	
Gaspereau R.	1950	14-20 weeks	33000	
Gaspereau R.	1951	2-8 weeks	14000	
Gaspereau R.	1959	parr/smolt 1+	15000	
Gaspereau R.	1960	parr/smolt 1+	10000	
Gaspereau R.	1961	parr/smolt 1+	6455	
Gaspereau R.	1963	parr/smolt 1+	10400	
Gaspereau R.	1964	26-52 weeks	9040	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Gaspereau R.	1965	parr 0+/1+	15500	
Gaspereau R.	1967	parr 0+/1+	12740	
Gaspereau R.	1984	20-26 weeks	21460	Gaspereau R.
Gaspereau R.	1984	26-52 weeks	8100	Gaspereau R.
Gaspereau R.	1985	parr 1+	1232	Gaspereau R.
Gaspereau R.	1985	smolt 1+	7631	Gaspereau R.
Gaspereau R.	1985	14-20 weeks	20792	Gaspereau R.
Gaspereau R.	1985	2-8 weeks	25000	Gaspereau R.
Gaspereau R.	1986	smolt 1+	9961	Gaspereau R.
Gaspereau R.	1986	20-26 weeks	22079	Gaspereau R.
Gaspereau R.	1986	2-8 weeks	15576	Gaspereau R.
Gaspereau R.	1987	smolt 1+	10624	Gaspereau R.
Gaspereau R.	1987	20-26 weeks	21662	Gaspereau R.
Gaspereau R.	1987	2-8 weeks	18249	Gaspereau R.
Gaspereau R.	1988	smolt 1+	9329	Gaspereau R.
Gaspereau R.	1994	parr 1+	3080	Gaspereau R.
Gaspereau R.	1994	smolt 1+	28959	Gaspereau R.
Gaspereau R.	1995	parr 1+	1257	Gaspereau R.
Gaspereau R.	1995	smolt 1+	9871	Gaspereau R.
Gaspereau R.	1995	smolt 2+	12115	Gaspereau R.
Gaspereau R.	1995	20-26 weeks	20704	Gaspereau R.
Gaspereau R.	1996	smolt 1+	18372	Gaspereau R.
Gaspereau R.	1997	smolt 2+	12856	Gaspereau R.
Gaspereau R.	1997	20-26 weeks	15010	Gaspereau R.
Gaspereau R.	1998	parr 2+	5245	Gaspereau R.
Gaspereau R.	1998	smolt 1+	16999	Gaspereau R.
Gaspereau R.	1998	26-52 weeks	31128	Gaspereau R.
Gaspereau R.	1999	smolt 1+	17139	Gaspereau R.
Gaspereau R.	1999	smolt 2+	8337	Gaspereau R.
Gaspereau R.	1999	20-26 weeks	11156	Gaspereau R.
Gaspereau R.	2000	smolt 1+	15874	Gaspereau R.
Gaspereau R.	2000	26-52 weeks	21880	Gaspereau R.
Gaspereau R.	2001	smolt 1+	10860	Gaspereau R.
Gaspereau R.	2001	26-52 weeks	42694	Gaspereau R.
Gaspereau R.	2002	smolt 1+	16508	Gaspereau R.
Gaspereau R.	2002	2-8 weeks	7393	Gaspereau R.
Great Village R.	1906	fry	50000	
Great Village R.	1913	fry	100000	
Great Village R.	1914	fry	150000	
Great Village R.	1915	fry	150000	
Great Village R.	1916	fry	150000	
Great Village R.	1931	2-8 weeks	60000	
Great Village R.	1932	2-8 weeks	30000	
Great Village R.	1933	2-8 weeks	50000	
Great Village R.	1934	2-8 weeks	72000	
Great Village R.	1935	2-8 weeks	30000	
Great Village R.	1937	<2 weeks	50000	

River	Year	Life Stage	Number	Stock Origin
Great Village R.	1937	2-8 weeks	30000	
Great Village R.	1940	parr/smolt 1+	35000	
Great Village R.	1940	2-8 weeks	15000	
Great Village R.	1941	2-8 weeks	25000	
Great Village R.	1942	8-14 weeks	20000	
Great Village R.	1945	<2 weeks	18000	
Great Village R.	1950	2-8 weeks	20000	
Great Village R.	1954	8-14 weeks	8500	
Kennetcook R.	1906	fry	50000	
Kennetcook R.	1908	fry	50000	
Kennetcook R.	1909	fry	50000	
Kennetcook R.	1912	fry	50000	
Kennetcook R.	1913	fry	100000	
Kennetcook R.	1914	fry	50000	
Kennetcook R.	1915	fry	100000	
Kennetcook R.	1916	fry	100000	
Kennetcook R.	1929	14-20 weeks	45000	
Kennetcook R.	1930	8-14 weeks	70000	
Kennetcook R.	1931	8-14 weeks	35000	
Kennetcook R.	1932	2-8 weeks	25000	
Kennetcook R.	1932	8-14 weeks	25000	
Kennetcook R.	1933	14-20 weeks	20000	
Kennetcook R.	1934	14-20 weeks	25000	
Kennetcook R.	1935	14-20 weeks	24000	
Kennetcook R.	1937	2-8 weeks	40000	
Kennetcook R.	1937	<2 weeks	60000	
Kennetcook R.	1938	14-20 weeks	26000	
Kennetcook R.	1938	2-8 weeks	40000	
Kennetcook R.	1939	14-20 weeks	18000	
Kennetcook R.	1940	8-14 weeks	25000	
Kennetcook R.	1940	parr/smolt 1+	10000	
Kennetcook R.	1941	14-20 weeks	20000	
Kennetcook R.	1941	parr/smolt 1+	5000	
Kennetcook R.	1942	8-14 weeks	20000	
Kennetcook R.	1944	14-20 weeks	50000	
Kennetcook R.	1944	parr/smolt 1+	4000	
Kennetcook R.	1945	2-8 weeks	20000	
Kennetcook R.	1946	8-14 weeks	20000	
Kennetcook R.	1947	14-20 weeks	20000	
Kennetcook R.	1948	14-20 weeks	19000	
Kennetcook R.	1949	14-20 weeks	20000	
Kennetcook R.	1950	14-20 weeks	20000	
Kennetcook R.	1953	14-20 weeks	20000	
Kennetcook R.	1954	14-20 weeks	20000	
Kennetcook R.	1955	8-14 weeks	20000	
Kennetcook R.	1956	8-14 weeks	20000	
Kennetcook R.	1956	14-20 weeks	20000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Kennetcook R.	1957	14-20 weeks	40000	
Kennetcook R.	1958	20-26 weeks	15000	
Kennetcook R.	1959	8-14 weeks	15000	
Kennetcook R.	1959	14-20 weeks	15000	
Kennetcook R.	1960	8-14 weeks	8320	
Kennetcook R.	1961	<2 weeks	13482	
Little Salmon R.	1913	fry	100000	
Little Salmon R.	1915	fry	40000	
Little Salmon R.	1941	<2 weeks	15000	
Maccan R.	1928	8-14 weeks	24700	
Maccan R.	1929	2-8 weeks	40000	
Maccan R.	1930	2-8 weeks	30000	
Maccan R.	1931	2-8 weeks	72245	Restigouche R.
Maccan R.	1932	2-8 weeks	30000	
Maccan R.	1933	2-8 weeks	50000	
Maccan R.	1935	2-8 weeks	45000	
Maccan R.	1936	2-8 weeks	30000	
Maccan R.	1937	<2 weeks	50000	
Maccan R.	1937	2-8 weeks	30000	
Maccan R.	1938	<1 week	60000	
Maccan R.	1938	<2 weeks	50000	
Maccan R.	1938	2-8 weeks	20000	
Maccan R.	1939	<1 week	70000	
Maccan R.	1939	2-8 weeks	30000	
Maccan R.	1940	parr/smolt 1+	40000	
Maccan R.	1940	2-8 weeks	20000	
Maccan R.	1941	<2 weeks	20000	
Maccan R.	1941	2-8 weeks	30000	
Maccan R.	1942	2-8 weeks	15000	
Maccan R.	1945	<2 weeks	23000	
Maccan R.	1945	2-8 weeks	23000	
Maccan R.	1946	<2 weeks	20000	
Maccan R.	1946	8-14 weeks	15000	
Maccan R.	1946	14-20 weeks	6400	
Maccan R.	1949	<2 weeks	20000	
Maccan R.	1950	<2 weeks	25000	
Maccan R.	1950	2-8 weeks	63000	
Maccan R.	1950	8-14 weeks	25000	
Maccan R.	1951	2-8 weeks	22000	
Maccan R.	1951	8-14 weeks	42500	
Maccan R.	1954	<2 weeks	45000	
Maccan R.	1954	2-8 weeks	35000	
Maccan R.	1954	8-14 weeks	20000	
Maccan R.	1955	2-8 weeks	29000	
Maccan R.	1955	8-14 weeks	51500	
Maccan R.	1956	8-14 weeks	2500	
Maccan R.	1956	parr/smolt 1+	5000	
Maccan R.	1957	14-20 weeks	25000	
Maccan R.	1957	parr/smolt 1+	2000	
Maccan R.	1958	8-14 weeks	66000	
Maccan R.	1959	8-14 weeks	80000	
Maccan R.	1960	14-20 weeks	65000	
Maccan R.	1960	parr/smolt 1+	2000	
Maccan R.	1961	8-14 weeks	22500	
Maccan R.	1961	14-20 weeks	40000	
Maccan R.	1962	2-8 weeks	27000	
Maccan R.	1962	8-14 weeks	116000	
Maccan R.	1962	14-20 weeks	58400	
Maccan R.	1963	2-8 weeks	50000	
Maccan R.	1963	8-14 weeks	68000	
Maccan R.	1963	parr/smolt 1+	8000	
Mispec R.	1913	fry	20000	
Mispec R.	1915	fry	40000	
Mispec R.	1916	fry	40000	
Mispec R.	1916	fingerling	19000	
Mispec R.	1928	<2 weeks	20000	
Mispec R.	1929	<2 weeks	50000	
Mispec R.	1929	20-26 weeks	2114	
Mispec R.	1930	<2 weeks	50000	
Mispec R.	1949	26-52 weeks	20000	
Mispec R.	1950	14-20 weeks	36000	
Mispec R.	1953	2-8 weeks	10000	
Mispec R.	1954	14-20 weeks	49110	
Mispec R.	1955	8-14 weeks	13690	
Mispec R.	1956	8-14 weeks	38480	
Mispec R.	1956	14-20 weeks	6000	
Mispec R.	1956	parr/smolt 1+	5600	
Mispec R.	1957	parr/smolt 1+	1400	
Mispec R.	1958	26-52 weeks	6000	
Mispec R.	1958	parr/smolt 1+	2000	
Mispec R.	1959	2-8 weeks	30000	
Mispec R.	1959	8-14 weeks	27000	
Mispec R.	1959	parr/smolt 1+	8000	
Mispec R.	1960	2-8 weeks	17000	
Mispec R.	1961	2-8 weeks	50000	
Mispec R.	1962	8-14 weeks	18000	
North R. (Truro)	1937	<2 weeks	50000	
North R. (Truro)	1937	2-8 weeks	50000	
North R. (Truro)	1938	2-8 weeks	110000	
North R. (Truro)	1939	2-8 weeks	100000	
North R. (Truro)	1940	2-8 weeks	60000	
North R. (Truro)	1941	2-8 weeks	35000	
North R. (Truro)	1942	8-14 weeks	20000	
North R. (Truro)	1945	2-8 weeks	50000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
North R. (Truro)	1946	2-8 weeks	20000	
North R. (Truro)	1946	8-14 weeks	15000	
North R. (Truro)	1949	2-8 weeks	30000	
North R. (Truro)	1950	2-8 weeks	50000	
North R. (Truro)	1950	8-14 weeks	20000	
North R. (Truro)	1951	2-8 weeks	20000	
North R. (Truro)	1952	2-8 weeks	30000	
North R. (Truro)	1954	8-14 weeks	56000	
North R. (Truro)	1955	2-8 weeks	29000	
North R. (Truro)	1955	8-14 weeks	30000	
North R. (Truro)	1958	14-20 weeks	34500	
North R. (Truro)	1959	14-20 weeks	45000	
North R. (Truro)	1960	14-20 weeks	35000	
North R. (Truro)	1961	14-20 weeks	25000	
North R. (Truro)	1962	8-14 weeks	20000	
North R. (Truro)	1963	8-14 weeks	80000	
Parrsboro R.	1995	20-26 weeks	7616	Gaspereau R.
Parrsboro R.	1996	smolt 1+	5984	Gaspereau R.
Parrsboro R.	1996	20-26 weeks	41700	Gaspereau R.
Parrsboro R.	1997	smolt 1+	18450	Gaspereau R.
Petitcodiac R.	1911	fry	25000	
Petitcodiac R.	1913	fry	125000	
Petitcodiac R.	1928	<2 weeks	75000	
Petitcodiac R.	1929	2-8 weeks	50000	
Petitcodiac R.	1936	<2 weeks	200000	
Petitcodiac R.	1937	<2 weeks	100000	
Petitcodiac R.	1938	<2 weeks	100000	
Petitcodiac R.	1939	2-8 weeks	200000	
Petitcodiac R.	1940	2-8 weeks	100000	
Petitcodiac R.	1941	<2 weeks	20000	
Petitcodiac R.	1941	8-14 weeks	108000	
Petitcodiac R.	1942	8-14 weeks	19500	
Petitcodiac R.	1943	8-14 weeks	44000	
Petitcodiac R.	1943	2-8 weeks	18000	
Petitcodiac R.	1944	2-8 weeks	4000	
Petitcodiac R.	1944	8-14 weeks	20000	
Petitcodiac R.	1945	parr/smolt 1+	125	
Petitcodiac R.	1945	8-14 weeks	106000	
Petitcodiac R.	1946	14-20 weeks	1100	
Petitcodiac R.	1946	parr/smolt 1+	588	
Petitcodiac R.	1946	8-14 weeks	48000	
Petitcodiac R.	1947	adult	1	
Petitcodiac R.	1947	8-14 weeks	269750	
Petitcodiac R.	1948	8-14 weeks	259817	
Petitcodiac R.	1949	14-20 weeks	80000	
Petitcodiac R.	1949	8-14 weeks	217105	
Petitcodiac R.	1950	8-14 weeks	293300	

River	Year	Life Stage	Number	Stock Origin
Petitcodiac R.	1951	8-14 weeks	1800	
Petitcodiac R.	1952	2-8 weeks	500000	
Petitcodiac R.	1952	8-14 weeks	513120	
Petitcodiac R.	1953	8-14 weeks	71500	
Petitcodiac R.	1956	14-20 weeks	99000	
Petitcodiac R.	1957	parr/smolt 1+	12296	
Petitcodiac R.	1958	parr/smolt 1+	13500	
Petitcodiac R.	1960	20-26 weeks	10750	
Petitcodiac R.	1961	8-14 weeks	130000	
Petitcodiac R.	1961	parr/smolt 1+	2008	
Petitcodiac R.	1962	14-20 weeks	100000	
Petitcodiac R.	1962	20-26 weeks	30000	
Petitcodiac R.	1962	parr/smolt 1+	2050	
Petitcodiac R.	1973	parr >1+	24032	
Petitcodiac R.	1973	parr 1+	24032	Big Salmon R.
Petitcodiac R.	1975	fry	24000	Big Salmon R.
Petitcodiac R.	1975	smolt 2+	11870	Big Salmon R.
Petitcodiac R.	1980	20-26 weeks	90972	Big Salmon R.
Petitcodiac R.	1980	20-26 weeks	60984	
Petitcodiac R.	1982	parr 1+	28299	Saint John R.
Petitcodiac R.	1982	14-20 weeks	54170	Saint John R.
Petitcodiac R.	1983	parr 1+	31080	NASRC general stock
Petitcodiac R.	1983	smolt 2+	18045	Saint John R.
Petitcodiac R.	1983	14-20 weeks	224883	Saint John R.
Petitcodiac R.	1984	parr 1+	9320	Big Salmon R.
Petitcodiac R.	1984	smolt 1+	8728	Big Salmon R.
Petitcodiac R.	1984	< 2 weeks	29628	NASRC general stock
Petitcodiac R.	1984	14-20 weeks	93736	Petitcodiac R.
Petitcodiac R.	1984	14-20 weeks	150081	Big Salmon R.
Petitcodiac R.	1984	14-20 weeks	26016	Saint John R.
Petitcodiac R.	1984	26-52 weeks	7998	SRC Chamcook
Petitcodiac R.	1985	smolt 1+	20514	Big Salmon R.
Petitcodiac R.	1985	< 2 weeks	11900	Saint John R.
Petitcodiac R.	1985	14-20 weeks	249795	Big Salmon R.
Petitcodiac R.	1985	8-14 weeks	38778	Big Salmon R.
Petitcodiac R.	1986	14-20 weeks	224249	Big Salmon R.
Petitcodiac R.	1986	8-14 weeks	66822	Big Salmon R.
Petitcodiac R.	1987	parr 1+	20501	Big Salmon R.
Petitcodiac R.	1987	smolt 1+	6684	Big Salmon R.
Petitcodiac R.	1987	smolt 2+	2009	Saint John R.
Petitcodiac R.	1987	14-20 weeks	168000	Saint John R.
Petitcodiac R.	1987	8-14 weeks	239555	Saint John R.
Petitcodiac R.	1988	parr 1+	20338	Saint John R.
Petitcodiac R.	1988	smolt 1+	5662	Saint John R.
Petitcodiac R.	1988	smolt 2+	4016	Saint John R.
Petitcodiac R.	1988	14-20 weeks	242997	Saint John R.
Petitcodiac R.	1988	2-8 weeks	106486	Saint John R.

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Petitcodiac R.	1989	smolt 2+	5000	Saint John R.
Petitcodiac R.	1989	14-20 weeks	189955	Saint John R.
Petitcodiac R.	1989	8-14 weeks	40180	Saint John R.
Petitcodiac R.	1990	smolt 2+	6879	Saint John R.
Petitcodiac R.	1990	14-20 weeks	147470	Saint John R.
Petitcodiac R.	1990	8-14 weeks	82265	Saint John R.
Petitcodiac R.	1991	smolt 1+	2942	Big Salmon R.
Petitcodiac R.	1991	26-52 weeks	2998	Saint John R.
Petitcodiac R.	1993	smolt 1+	16192	Petitcodiac R.
Petitcodiac R.	1994	smolt 1+	915	Petitcodiac R.
Petitcodiac R.	1995	smolt 1+	5199	Petitcodiac R.
Petitcodiac R.	1995	adult	67	Big Salmon R.
Petitcodiac R.	1998	smolt 1+	21333	Saint John R.
Petitcodiac R.	1999	smolt 1+	15021	Saint John R.
Petitcodiac R.	2002	fry	56159	Big Salmon R.
Petitcodiac R.	2002	adult	53	Big Salmon R.
Point Wolfe R.	1982	14-20 weeks	42393	Big Salmon R.
Point Wolfe R.	1983	14-20 weeks	41990	Saint John R.
Point Wolfe R.	1984	14-20 weeks	41948	Big Salmon R.
Point Wolfe R.	1985	14-20 weeks	39608	Big Salmon R.
Point Wolfe R.	1985	8-14 weeks	2397	Big Salmon R.
Portapique R.	1913	fry	100000	
Portapique R.	1931	<2 weeks	60000	
Portapique R.	1932	2-8 weeks	30000	
Portapique R.	1933	2-8 weeks	50000	
Portapique R.	1934	2-8 weeks	40000	
Portapique R.	1935	2-8 weeks	30000	
Portapique R.	1937	2-8 weeks	83000	
Portapique R.	1938	<2 weeks	60000	
Portapique R.	1938	2-8 weeks	40000	
Portapique R.	1939	2-8 weeks	85000	
Portapique R.	1941	2-8 weeks	40000	
Portapique R.	1942	2-8 weeks	15000	
Portapique R.	1945	<2 weeks	23000	
Portapique R.	1946	<2 weeks	18000	
Portapique R.	1949	2-8 weeks	25000	
Portapique R.	1950	<2 weeks	25000	
Portapique R.	1950	2-8 weeks	10000	
Portapique R.	1950	14-20 weeks	8000	
Portapique R.	1951	2-8 weeks	13000	
Portapique R.	1952	2-8 weeks	30000	
Portapique R.	1954	2-8 weeks	35000	
Portapique R.	1955	2-8 weeks	22000	
Portapique R.	1957	14-20 weeks	10000	
Portapique R.	1958	8-14 weeks	25000	
Portapique R.	1959	8-14 weeks	30000	
Portapique R.	1960	14-20 weeks	30000	

River	Year	Life Stage	Number	Stock Origin
Portapique R.	1961	14-20 weeks	22000	
Portapique R.	1962	2-8 weeks	27000	
Portapique R.	1962	14-20 weeks	44000	
Portapique R.	1963	8-14 weeks	56000	
R. Hebert	1903	fry	60000	
R. Hebert	1904	fry	60000	
R. Hebert	1906	fry	110000	
R. Hebert	1908	fry	300000	
R. Hebert	1909	fry	200000	
R. Hebert	1910	fry	200000	
R. Hebert	1911	fry	200000	
R. Hebert	1912	fry	150000	
R. Hebert	1913	fry	240000	
R. Hebert	1914	fry	100000	
R. Hebert	1929	8-14 weeks	40000	
R. Hebert	1930	8-14 weeks	70000	
R. Hebert	1931	2-8 weeks	40000	
R. Hebert	1933	14-20 weeks	15000	
R. Hebert	1934	14-20 weeks	25000	
R. Hebert	1935	14-20 weeks	26000	
R. Hebert	1936	8-14 weeks	25000	
R. Hebert	1949	2-8 weeks	10000	
R. Hebert	1950	2-8 weeks	10000	
R. Hebert	1954	8-14 weeks	10500	
Salmon R. (Truro)	1930	2-8 weeks	20000	
Salmon R. (Truro)	1936	<2 weeks	75000	
Salmon R. (Truro)	1937	<2 weeks	50000	
Salmon R. (Truro)	1937	2-8 weeks	40000	
Salmon R. (Truro)	1938	<2 weeks	60000	
Salmon R. (Truro)	1938	2-8 weeks	105000	
Salmon R. (Truro)	1939	2-8 weeks	100000	
Salmon R. (Truro)	1940	8-14 weeks	25000	
Salmon R. (Truro)	1941	<2 weeks	30000	
Salmon R. (Truro)	1942	8-14 weeks	45000	
Salmon R. (Truro)	1945	2-8 weeks	50000	
Salmon R. (Truro)	1946	2-8 weeks	20000	
Salmon R. (Truro)	1946	8-14 weeks	12000	
Salmon R. (Truro)	1949	2-8 weeks	25000	
Salmon R. (Truro)	1950	<2 weeks	25000	
Salmon R. (Truro)	1950	2-8 weeks	28000	
Salmon R. (Truro)	1950	8-14 weeks	17000	
Salmon R. (Truro)	1950	14-20 weeks	20000	
Salmon R. (Truro)	1951	8-14 weeks	63000	
Salmon R. (Truro)	1954	2-8 weeks	55000	
Salmon R. (Truro)	1954	8-14 weeks	28000	
Salmon R. (Truro)	1955	2-8 weeks	33000	
Salmon R. (Truro)	1955	8-14 weeks	21500	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Salmon R. (Truro)	1956	14-20 weeks	20000	
Salmon R. (Truro)	1956	parr/smolt 1+	3000	
Salmon R. (Truro)	1957	14-20 weeks	15000	
Salmon R. (Truro)	1957	parr/smolt 1+	2000	
Salmon R. (Truro)	1958	8-14 weeks	30000	
Salmon R. (Truro)	1958	14-20 weeks	15000	
Salmon R. (Truro)	1959	8-14 weeks	33000	
Salmon R. (Truro)	1960	20-26 weeks	25000	
Salmon R. (Truro)	1961	14-20 weeks	27000	
Salmon R. (Truro)	1962	14-20 weeks	143000	
Salmon R. (Truro)	1963	8-14 weeks	105000	
Salmon R. (Truro)	1963	parr/smolt 1+	8000	
Salmon R. (Truro)	2002	adult	189	Stewiacke R.
Shepody R.	1984	14-20 weeks	4236	Petitcodiac R.
Shepody R.	1984	8-14 weeks	117104	Saint John R.
Shepody R.	1985	< 2 weeks	23670	Saint John R.
Shepody R.	1986	8-14 weeks	25624	Saint John R.
Shubenacadie R.	1900	fry	75000	
Shubenacadie R.	1901	fry	60000	
Shubenacadie R.	1902	fry	60000	
Shubenacadie R.	1903	fry	60000	
Shubenacadie R.	1904	fry	60000	
Shubenacadie R.	1905	fry	50000	
Shubenacadie R.	1906	fry	200000	
Shubenacadie R.	1908	fry	30000	
Shubenacadie R.	1909	fry	220000	
Shubenacadie R.	1910	fry	280000	
Shubenacadie R.	1911	fry	240000	
Shubenacadie R.	1912	fry	190000	
Shubenacadie R.	1913	fry	300000	
Shubenacadie R.	1914	fry	60000	
Shubenacadie R.	1915	fry	50000	
Shubenacadie R.	1916	fry	50000	
Shubenacadie R.	1928	<2 weeks	132000	
Shubenacadie R.	1928	2-8 weeks	20000	
Shubenacadie R.	1929	2-8 weeks	119500	
Shubenacadie R.	1930	2-8 weeks	60000	
Shubenacadie R.	1935	2-8 weeks	20000	
Shubenacadie R.	1937	20-26 weeks	6060	
Shubenacadie R.	1938	14-20 weeks	9624	
Shubenacadie R.	1942	parr/smolt 1+	80	
Shubenacadie R.	1944	parr/smolt 1+	1074	
Shubenacadie R.	1948	14-20 weeks	6000	
Shubenacadie R.	1951	smolt 2+	3079	
Shubenacadie R.	1952	adult	27	
Shubenacadie R.	1952	smolt 2+	93	
Shubenacadie R.	1954	2-8 weeks	8000	
Shubenacadie R.	1954	8-14 weeks	4016	
Shubenacadie R.	1957	14-20 weeks	20000	
Shubenacadie R.	1957	20-26 weeks	15000	
Shubenacadie R.	1957	parr/smolt 1+	10000	
Shubenacadie R.	1960	20-26 weeks	15000	
Shubenacadie R.	1961	26-52 weeks	35295	
Shubenacadie R.	1961	parr/smolt 1+	1000	
Shubenacadie R.	1963	2-8 weeks	5000	
Shubenacadie R.	1964	14-20 weeks	2101	
Shubenacadie R.	1965	20-26 weeks	7462	
Shubenacadie R.	1966	26-52 weeks	4600	
Shubenacadie R.	1985	8-14 weeks	20000	LaHave
St. Croix R.	1931	2-8 weeks	40000	
Stewiacke R.	1932	2-8 weeks	15000	
Stewiacke R.	1936	2-8 weeks	105000	
Stewiacke R.	1937	<2 weeks	60000	
Stewiacke R.	1938	14-20 weeks	13000	
Stewiacke R.	1940	parr/smolt 1+	2000	
Stewiacke R.	1940	8-14 weeks	25000	
Stewiacke R.	1941	14-20 weeks	10000	
Stewiacke R.	1942	8-14 weeks	20000	
Stewiacke R.	1942	parr/smolt 1+	5000	
Stewiacke R.	1943	14-20 weeks	10000	
Stewiacke R.	1944	14-20 weeks	20000	
Stewiacke R.	1944	parr/smolt 1+	4400	
Stewiacke R.	1945	2-8 weeks	15000	
Stewiacke R.	1945	parr/smolt 1+	5000	
Stewiacke R.	1946	14-20 weeks	22000	
Stewiacke R.	1947	14-20 weeks	20000	
Stewiacke R.	1948	8-14 weeks	20000	
Stewiacke R.	1949	8-14 weeks	20000	
Stewiacke R.	1950	<2 weeks	45000	
Stewiacke R.	1950	8-14 weeks	20000	
Stewiacke R.	1951	8-14 weeks	23000	
Stewiacke R.	1952	2-8 weeks	35000	
Stewiacke R.	1952	8-14 weeks	13854	
Stewiacke R.	1953	20-26 weeks	15000	
Stewiacke R.	1954	14-20 weeks	20000	
Stewiacke R.	1954	20-26 weeks	20000	
Stewiacke R.	1955	8-14 weeks	20000	
Stewiacke R.	1956	8-14 weeks	20000	
Stewiacke R.	1956	14-20 weeks	15000	
Stewiacke R.	1957	14-20 weeks	20000	
Stewiacke R.	1957	20-26 weeks	15000	
Stewiacke R.	1958	20-26 weeks	15000	
Stewiacke R.	1958	parr/smolt 1+	12000	
Stewiacke R.	1959	14-20 weeks	30000	

Appendix 1 (con't.)

River	Year	Life Stage	Number	Stock Origin
Stewiacke R.	1959	parr/smolt 1+	12500	
Stewiacke R.	1965	20-26 weeks	20000	
Stewiacke R.	1985	parr 1+	11156	Stewiacke R.
Stewiacke R.	1985	smolt 1+	21114	Stewiacke R.
Stewiacke R.	1985	20-26 weeks	17061	Stewiacke R.
Stewiacke R.	1986	smolt 1+	10072	Stewiacke R.
Stewiacke R.	1986	smolt 2+	2581	Stewiacke R.
Stewiacke R.	1987	smolt 1+	6842	Stewiacke R.
Stewiacke R.	1987	smolt 2+	1540	Stewiacke R.
Stewiacke R.	1990	smolt 1+	15028	Stewiacke R.
Stewiacke R.	1991	parr 1+	1684	Stewiacke R.
Stewiacke R.	1991	smolt 1+	26930	Stewiacke R.
Stewiacke R.	1991	smolt 2+	7892	Stewiacke R.
Stewiacke R.	1992	parr 1+	25728	Stewiacke R.
Stewiacke R.	1992	smolt 1+	9949	Stewiacke R.
Stewiacke R.	1992	smolt 2+	14526	Stewiacke R.
Stewiacke R.	1992	20-26 weeks	33728	Stewiacke R.
Stewiacke R.	1993	smolt 1+	21700	Stewiacke R.
Stewiacke R.	1993	smolt 2+	6073	Stewiacke R.
Stewiacke R.	1994	parr 1+	318	Stewiacke R.
Stewiacke R.	1994	smolt 1+	845	Stewiacke R.
Stewiacke R.	1994	20-26 weeks	21631	Stewiacke R.
Stewiacke R.	1995	smolt 1+	14239	Stewiacke R.
Stewiacke R.	1995	smolt 2+	4876	Stewiacke R.
Stewiacke R.	1996	smolt 1+	6993	Stewiacke R.
Stewiacke R.	1997	smolt 2+	10920	Stewiacke R.
Stewiacke R.	2001	26-52 weeks	34083	Stewiacke R.
Stewiacke R.	2001	6 weeks	29484	Stewiacke R.
Stewiacke R.	2001	unfed fry	12722	Stewiacke R.
Stewiacke R.	2002	20-26 weeks	88360	Stewiacke R.
Stewiacke R.	2002	unfed fry	24000	Stewiacke R.
Stewiacke R.	2002	6 weeks	42000	Stewiacke R.
Stewiacke R.	2002	smolt 1+	6040	Stewiacke R.
Tantramar R.	1985	8-14 weeks	3218	Big Salmon R.
Tynemouth R.	1914	fry	100000	
Tynemouth R.	1915	fry	25000	
Tynemouth R.	1934	26-52 weeks	26000	
Tynemouth R.	1936	<2 weeks	100000	
Tynemouth R.	1937	<2 weeks	50000	
Tynemouth R.	1938	<2 weeks	75000	
Tynemouth R.	1939	<2 weeks	100000	
Tynemouth R.	1939	2-8 weeks	50000	
Tynemouth R.	1940	<2 weeks	50000	
Tynemouth R.	1941	<2 weeks	35000	
Tynemouth R.	1944	2-8 weeks	50000	
Tynemouth R.	1945	<2 weeks	90000	
Tynemouth R.	1945	8-14 weeks	38000	
Tynemouth R.	1946	<2 weeks	50000	
Tynemouth R.	1947	2-8 weeks	30000	
Tynemouth R.	1948	<2 weeks	45000	
Tynemouth R.	1949	2-8 weeks	40000	
Tynemouth R.	1949	14-20 weeks	50000	
Tynemouth R.	1950	2-8 weeks	50000	
Tynemouth R.	1950	14-20 weeks	28700	
Tynemouth R.	1951	2-8 weeks	50000	
Tynemouth R.	1952	2-8 weeks	30000	
Tynemouth R.	1953	2-8 weeks	25000	
Tynemouth R.	1954	14-20 weeks	40181	
Tynemouth R.	1954	20-26 weeks	16125	
Tynemouth R.	1955	8-14 weeks	13690	
Tynemouth R.	1956	8-14 weeks	38480	
Tynemouth R.	1957	14-20 weeks	7500	
Tynemouth R.	1957	parr/smolt 1+	1200	
Tynemouth R.	1958	26-52 weeks	3000	
Tynemouth R.	1958	parr/smolt 1+	1000	
Tynemouth R.	1959	2-8 weeks	20000	
Tynemouth R.	1959	8-14 weeks	10000	
Tynemouth R.	1960	2-8 weeks	12000	
Tynemouth R.	1961	2-8 weeks	15000	
Tynemouth R.	1961	20-26 weeks	4408	
Upper Salmon R.	1972	parr >1+	16705	